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LETTERS

TO

DR WILLIAM OSBORN, ~~MD~~

ON CERTAIN DOCTRINES CONTAINED IN HIS ESSAYS
ON THE PRACTICE OF MIDWIFERY, &c.

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to

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ON CERTAIN THEORIES OF THE
ON THE THEORY OF THE

LETTERS

TO

DR. WILLIAM OSBORN,

TEACHER AND PRACTITIONER OF MIDWIFERY
IN LONDON,

ON CERTAIN DOCTRINES CONTAINED IN HIS ESSAYS
ON THE PRACTICE OF MIDWIFERY, &c.

FROM

H.
ALEXANDER HAMILTON,

M. D. F. R. S. EDIN.

PROFESSOR OF MIDWIFERY IN THE UNIVERSITY, AND
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS,
OF EDINBURGH.

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DR WILLIAM OSBORN

TEACHER AND PRACTITIONER OF MIDWIFERY
IN LONDON

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ON THE PRACTICE OF MIDWIFERY, &c



(2)

LETTERS

TO

DR WILLIAM OSBORN,

TEACHER AND PRACTITIONER OF MIDWIFERY

IN LONDON, &c.

LETTER I.

SIR,

ALTHOUGH called to answer
some objections urged by you against
opinions which I have always maintain-
ed, I should have felt the utmost re-

A

luctance

luctance to have troubled yourself or the world with this Correspondence, had personal controversy been the object in view,

BUT as the subjects on which our sentiments differ are of the utmost importance to the interests of humanity, I consider it incumbent on me, from the duty I owe the public, and the numerous pupils who have been and may in future be instructed under my care in the principles of that art which we mutually profess, to explain fully my ideas on these subjects.

HAD you not deservedly acquired a very great character both as a Teacher and Practitioner, I should never have thought it necessary to address myself to you in this manner : But considering your professional eminence in the just estimation of the world, and the value
of

of some of your practical precepts, I should have held myself culpable in the highest degree, if I had not, by this attempt, endeavoured to prevent the general adoption of *all* your principles.

In the course of this Correspondence, I shall,

First, Prove that you originally mistook and misrepresented, in your "Essay on Laborious Parturition," my opinions on the subject of the Cæsarean operation; and that, although in an appendix to my "Outlines of the Theory and Practice of Midwifery," published in October 1783, I explained these mistakes, you have still, in your "Essays on the Practice of Midwifery," &c. adhered to your former misrepresentations:

SECONDLY, I shall offer a few arguments in favour of the opinions on that subject which I have invariably held.

THIRDLY, I shall place in a more clear point of view the objections adduced in all the editions of my Outlines, against your opinions on that operation.

LASTLY, I shall, in compliance with your desire *, offer a few observations to prove that the *fœtus in utero* possesses the power of feeling.

CASES requiring the Cæsarean operation occur so rarely, that I would not have bestowed so much trouble in explaining my sentiments on that subject, had not the discussion of the question

* Essays on the Practice of Midwifery, &c. (1792.)
page 448.

afforded

afforded me an opportunity of pointing out the impossibility of measuring the pelvis in a living person with geometrical accuracy, and hence of shewing the impropriety of opening the child's head at the beginning of labour in certain cases of deformity, as you advise. In illustration of my arguments, I shall have occasion to produce two or three striking cases.

THESE subjects are acknowledged to be of the greatest importance in the practice of Midwifery, and therefore no apology is required for the publication of the following Letters.

PERMIT me to add, that although I shall constantly avoid every personal controversy, yet I shall be happy at all times to discuss with candour, and to investigate with industrious zeal, every question

question which regards the interests of mankind.

I have the honour to be,

SIR,

Your most obedient humble Servant,

EDINBURGH,

Oct. 23. 1792.

ALEX^r. HAMILTON.

LETTER II.

SIR,

I SHOULD carefully shun every personal detail, did it affect myself merely as an individual; and consequently I should

have

have passed over in silence the subject of this and the two following letters, did I not wish to contribute my feeble efforts to check the improper practice of misrepresenting the sense of authors, by mutilated and partial extracts from their works, which has lately been so very prevalent.

SWAYED by these motives alone, I now proceed to prove, that you have entirely mistaken and misrepresented my opinions on the subject of the Cæsarean operation.

IN the year 1775, I published, chiefly for the use of the gentlemen who did me the honour to attend my lectures, a small work, intitled, "Elements of the Practice of Midwifery."

ON the subject of the Cæsarean operation in that book, I enumerated the circumstances

circumstances which, to me, appeared indications of the necessity for having recourse to such a formidable expedient, in the following words, (p. 239.) ‘ When
 ‘ the delivery could not be accomplish-
 ‘ ed by other means, or when a woman
 ‘ died suddenly with a living child in
 ‘ her belly, an operation to preserve
 ‘ the life of mother and child in the
 ‘ former case, and the child, in the lat-
 ‘ ter, has been recommended, and suc-
 ‘ cessfully performed by different au-
 ‘ thors, and in different ages.

‘ THIS operation is of ancient date :
 ‘ it is the *sectio Cæsarea*, or *partus Cæsa-*
 ‘ *reus* of the Latins, and the *Hysteroto-*
 ‘ *mia* of the Greeks. Whether it was
 ‘ ever successfully performed on the li-
 ‘ ving subject amongst the ancients
 ‘ seems uncertain ; but that it has been
 ‘ successfully practised by the moderns
 ‘ on various occasions, and in several
 ‘ different

' different countries of Europe, there
 ' are so many authentic histories on re-
 ' cord, that the fact will scarce admit
 ' of doubt. But as this, like many o-
 ' ther salutary institutions, has been
 ' much abused, and in many cases im-
 ' properly and injudiciously employed,
 ' (for some of those women who survi-
 ' ved the operation, were afterwards
 ' safely delivered of living children), the
 ' circumstances which render this ope-
 ' ration necessary demand a very particu-
 ' lar enquiry, viz.

' 1. A narrowness, or bad confor-
 ' mation of the bones of the pelvis.

' 2. IMPERFORATED vagina, or con-
 ' tractions in the vagina, cicatrices, tu-
 ' mours, or callosities in the os uteri,
 ' &c.

B

3. THE

‘ 3. THE passage of the child through
‘ the uterus when torn.

‘ 4. VENTRAL conceptions.

‘ 5. HERNIÆ of the uterus.

‘ LASTLY, The position or bulk of
‘ the child.

‘ IT will be necessary carefully to ex-
‘ amine these different cases, in order to
‘ show, that they are by no means, in
‘ every case, sufficiently powerful mo-
‘ tives for having recourse to it.

‘ 1. *Bad conformation of the bones of*
‘ *the pelvis.* When the hand of the o-
‘ perator cannot be introduced within
‘ the pelvis, or, in other words, when
‘ its largest diameter does not exceed
‘ one inch, or one inch and a half, this
‘ conformation is perhaps the only one
‘ which

' which renders the Cæſarean operation
 ' absolutely neceſſary. Happily, how-
 ' ever, ſuch a ſtructure very ſeldom oc-
 ' curs in practice, and when it does,
 ' the accoucheur will readily diſcover
 ' it, by attending to the following cir-
 ' cumſtances, and to the common marks
 ' of a narrow pelvis.

' WHEREVER the capacity of the pel-
 ' vis is ſo ſtrait, as not to admit any part
 ' of the child's head to enter, nor of
 ' two fingers of the accoucheur's hand,
 ' to conduct proper inſtruments, to tear,
 ' break down, and extract the child
 ' piece-meal ; in this caſe recourſe muſt
 ' be had to the Cæſarean ſection, an ex-
 ' pedient, though dreadful and hazar-
 ' dous, that will give the woman and
 ' child the only chance of life ; and
 ' which, if timely and prudently con-
 ' ducted, notwithstanding of the many
 ' inſtances wherein it has failed, may

‘ be performed with great probability
 ‘ of success.

‘ In the city of London, during the
 ‘ course of the last hundred years, of
 ‘ above fifty women that have present-
 ‘ ed to the different practitioners, and
 ‘ in the different hospitals, with narrow
 ‘ pelvices, that is, from one inch to lit-
 ‘ tle more than two at the widest dia-
 ‘ meter, no more than four or five of
 ‘ this number have been saved, and the
 ‘ whole of the children have been de-
 ‘ stroyed : whereas, had the operation
 ‘ been performed, frightful and ha-
 ‘ zardous as it is, many of these un-
 ‘ happy women, with their children,
 ‘ would by this means have been prefer-
 ‘ ved ; for it has been performed only
 ‘ once in that city, viz. within these
 ‘ few years, by Mr Thomson surgeon
 ‘ to the London hospital.

‘ It

' It is true, the success of the opera-
 ' tion in the city of Edinburgh, where
 ' it has been done five times, has pro-
 ' ved discouraging, as none of the wo-
 ' men had the good fortune to survive
 ' it many days. This, however, is not
 ' the fault of the operation, but is to be
 ' imputed to the low, weak state of the
 ' patients at the time, who had previ-
 ' ously been several days in labour, and
 ' their strength greatly exhausted before
 ' the operator was called. Delivery
 ' by every other means was utterly im-
 ' practicable; the operation, though the
 ' event was doubtful, alone gave a
 ' chance of life, and three of the chil-
 ' dren by this means were extracted a-
 ' live *.'

* In the original, the history of the last case, where
 this operation was performed in Edinburgh, is related;
 but, being unconnected with our present purpose, I
 pass it over.

' SINCE

' SINCE the first accounts of the ope-
 ' ration, practised successfully by a
 ' sow-gelder on his own wife, in the
 ' beginning of the sixteenth century,
 ' there are on record above seventy well-
 ' attested histories, wherein it has been
 ' successfully performed; for, of all the
 ' cases related by authors, it has not
 ' proved fatal to the patient above once
 ' in ten or nine instances, which evi-
 ' dently shews the propriety of the
 ' practice, and probability of success;
 ' both in regard to the mother's own
 ' recovery, and for certainly preserving
 ' the life of the child. But it should
 ' never be attempted, excepting in those
 ' cases only when it is absolutely im-
 ' possible to deliver the woman by any
 ' other means whatever; for there are
 ' pelvises to be met with, where, with-
 ' out having recourse to this operation,
 ' both mother and child must inevita-
 ' bly perish. Such have occurred to
 ' many

' many practitioners, who, from want
 ' of resolution, or from ill-founded pre-
 ' judice, have allowed the patient to pe-
 ' rish from neglect, contrary to a well-
 ' founded maxim in physic, that in a
 ' desperate case it is better to employ a
 ' doubtful, and even desperate remedy,
 ' than to abandon the patient to certain
 ' and utter ruin. Such, for instance,
 ' is a case related by Saviard, of a wo-
 ' man, aged twenty-seven, whose sta-
 ' ture was only three feet, who came
 ' to lie in at Paris in the Hotel Dieu:
 ' every method but the operation was
 ' in vain attempted; both mother and
 ' child died. Mauriceau also relates the
 ' history of a woman, who was left to
 ' die, where the aperture of the pelvis
 ' was so small, as not to admit the hand
 ' of the accoucheur. And, not to
 ' multiply instances, M. De la Roche
 ' gives a case, where the woman had
 ' been seven days in labour; the child
 ' was

' was saved by the operation, but the
 ' woman died the fifth day after, pro-
 ' bably from its being too long delayed.
 ' The distance in this subject from the
 ' lower vertebra lumborum and os pu-
 ' bis, was no more than two fingers
 ' breadth. The operation, when the
 ' necessity is evident, ought therefore
 ' to be early performed, that the pa-
 ' tient, who from her make and consti-
 ' tution is generally delicate and puny,
 ' may have every chance of recovery
 ' in her favour, without being exhaust-
 ' ed by the fruitless efforts of a tedious
 ' and painful labour, as too often has
 ' been the case. On these occasions, the
 ' prudent accoucheur should call in the
 ' advice of his elder brethren of the pro-
 ' fession, and, by his cautious and pru-
 ' dent conduct, avoid every cause of
 ' censure and reproach.

' EXOSTOSES from the bones of the
 ' pelvis,

‘ pelvis, is a species of deformity ve-
 ‘ ry rarely met with in practice, and
 ‘ that very seldom or never takes place
 ‘ to such a degree as to render this o-
 ‘ peration necessary *.’

IN the supplement, (p. 292), I add,
 ‘ The absolute impracticability of ex-
 ‘ tracting a child through the aperture
 ‘ of the pelvis, is perhaps the only cir-
 ‘ cumstance that justifies the perform-
 ‘ ance of the Cæsarean operation on the
 ‘ living subject: which ought never to
 ‘ be had recourse to in cases of diseases
 ‘ or original mal-conformation of the
 ‘ soft parts of generation, when there is

* In the original, I prove that the Cæsarean operation is not necessary from any of the other circumstances formerly enumerated, viz. unperforated vagina, or contractions in the vagina, cicatrices, tumours, or callosities in the os uteri, &c. the passage of the child through the uterus when torn, ventral conception, herniæ of the uterus, and the position or bulk of the child.

‘ no fufpicion of deformity of the
‘ bones.’

It is fcarcely credible, that an opinion fo explicitly detailed, could have been miftaken; but that you have done fo, I fhall prove in my next letter.

I have the honour to be, &c.

L E T T E R III.

SIR,

I SHALL make no apology for continuing the detail begun in the preceding letter, as you yourfelf have forced me to undertake fo difagreeable a task.

IN

IN the year 1783, I published a work, intituled, " Outlines of the Theory and " Practice of Midwifery." This was merely an improved edition of the former book; in which my intention was, to correct the inadvertences of a *first publication*, and to announce those changes in my opinions on practical subjects, which the additional experience of some years, and a constant careful attention to the laws of nature, had occasioned; and which had been already fully explained in my lectures.

WHEN the greatest part of the Outlines was printed off, I received a copy of your Essay on Laborious Parturition; and was a good deal astonished at the manner in which you had misrepresented the opinion advanced in the Elements, which I have copied in the preceding letter.

C 2

' BUT,

‘ BUT, as I have all through this essay,
 you observe, ‘ holden opinions concern-
 ‘ ing that (the Cæfarean) operation, (ex-
 ‘ pressed in strong language), very differ-
 ‘ ent from many foreign authors of high
 ‘ reputation, but particularly differing
 ‘ from the opinions and expressions in
 ‘ the last book on the subject published
 ‘ in this kingdom, by a Professor of
 ‘ Midwifery in the first school of me-
 ‘ dicine in the world *; I knew it
 ‘ would be required of me, and indeed,
 ‘ that it was an instance of respect due
 ‘ to the character and station of that
 ‘ author, not to pass unnoticed those
 ‘ opinions, concerning which I have
 ‘ the misfortune to differ *toto cælo* from
 ‘ Professor Hamilton.

‘ I have all through this essay men-
 ‘ tioned the Cæfarean operation as cer-

* Elements of the Practice of Midwifery, by A.
 Hamilton 1775.

‘ tainly

' tainly fatal, and the delivery by the
 ' crotchet as perfectly safe. I was not,
 ' however, to be informed, that the first
 ' had succeeded in one or two instan-
 ' ces on the Continent, nor that the lat-
 ' ter had proved fatal in a very few in-
 ' stances in this country. But I trust-
 ' ed that the general event of the prac-
 ' tice in both cases so very nearly cor-
 ' responded with that idea, as fully to
 ' justify both the opinion and expres-
 ' sions.

' HAVING considered with all possible
 ' attention, the nature and probable con-
 ' sequences of the Cæsarean operation,
 ' and having carefully examined all the
 ' accounts published of it in Europe, I
 ' own, I was most exceedingly astonished
 ' at the following observations of Profes-
 ' sor Hamilton. Speaking of the necessity
 ' for this operation, he says most truly,
 ' " That it is a dreadful and hazardous
 ' " expe-

“ expedient ;” ‘ but then he adds,
 “ which if timely and prudently con-
 “ ducted, notwithstanding the many in-
 “ stances wherein it has failed, may be
 “ performed with great probability of
 “ success.” ‘ And again,’ “ There are
 “ on record above seventy well attest-
 “ ed histories, wherein it (the Cæsarean
 “ operation) has been successfully per-
 “ formed ; for of all the cases related by
 “ authors, it has not proved fatal to the
 “ patient above once in nine or ten
 “ instances, which evidently shows the
 “ propriety of the practice, and pro-
 “ bability of success, both in regard to
 “ the mother’s own recovery, and for
 “ certainly preserving the life of the
 “ child.”

‘ WITH respect to this assertion, con-
 ‘ cerning the general event of the Cæ-
 ‘ sarean operation, I beg leave to say,
 ‘ that the Professor must have derived
 ‘ his

‘ his information through channels very
 ‘ different from those which have been
 ‘ accessible to me, or he is by no means
 ‘ warranted in his conclusion. For ex-
 ‘ cept the very first, the most favour-
 ‘ able accounts of this operation, instead
 ‘ of confirming the truth of Professor
 ‘ Hamilton’s assertion, “ that it has not
 “ proved fatal to the patient above once
 “ in nine or ten instances,” ‘ precisely
 ‘ reverse the fact, declaring, that only
 ‘ one woman out of ten has escaped.
 ‘ Monf. Baudeloque, the latest author
 ‘ on the subject, and who seems suffi-
 ‘ ciently inclined to favour it, says express-
 ‘ ly, “ L’operation Cæsarienne est si
 “ dangereuse pour la femme, qu’ à peine
 “ sur dix il en echappe une à la mort.”

‘ I CANNOT permit myself to believe
 ‘ that Mr Hamilton could mean to re-
 ‘ fer to the early accounts of this opera-
 ‘ tion, for they are altogether so impro-
 ‘ bable.

' bable. The facility with which in
 ' them it is stated to have been perform-
 ' ed, often by the most ignorant and
 ' unskilful persons, its general success
 ' under circumstances the most hazar-
 ' dous, and alarming in the patient,
 ' and under treatment the most injudi-
 ' cious on the part of the operator, the
 ' subsequent symptoms so favourable,
 ' and different from what have been
 ' uniformly observed in every recent
 ' and well attested case, but especi-
 ' ally the frequent repetition of it on
 ' the same subject, all concur to render
 ' it impossible, without credulity in the
 ' extreme, to regard such cases as au-
 ' thentic facts, upon the authority of
 ' which we are to direct our future prac-
 ' tice, or justify ourselves in the perfor-
 ' mance of so tremendous an opera-
 ' tion. But even admitting the truth
 ' and weight of these relations, yet
 ' however successful it may have pro-
 ' ved

'ved in other climates, and former
 ' times, at least we know with certain-
 ' ty, that in this country and this
 ' age, (whatever the alteration of cir-
 ' cumstances may be), it has proved fa-
 ' tal in nine successive cases, the whole
 ' number in which it has been perform-
 ' ed in this kingdom ; and I think, con-
 ' sidering where and by whom the ope-
 ' ration was done, Professor Hamilton
 ' will hardly venture to say, that at
 ' least some of the cases were not " time-
 " ly and prudently conducted."

' THE following quotation from the
 ' same book, while it excites my asto-
 ' nishment, demands particular notice,
 ' because it directly contradicts the prin-
 ' cipal intention of this essay.'

" IN the city of London, during the
 " course of the last hundred years, of
 " above fifty women that have present-

D

" ed

“ ed to the different practitioners, and
 “ in the different hospitals, with nar-
 “ row pelvices, that is, from one inch to
 “ little more than two at the widest di-
 “ ameter, no more than four or five of
 “ this number have been saved, and
 “ the whole of the children have been
 “ destroyed ; whereas, had the Cæsarean
 “ operation been performed, frightful
 “ and hazardous as it is, many of those
 “ unhappy women, with their children,
 “ would have been preserved.”

‘ WITH respect to the above quota-
 ‘ tion, I beg leave to assure the learned
 ‘ and ingenious author, that concerning
 ‘ the event of the cases of the most de-
 ‘ formed pelvices in this city, (not how-
 ‘ ever of “ one inch diameter,” for I
 ‘ know of none such, but the smallest
 ‘ of which any account can be pro-
 ‘ cured) he has been altogether mis-
 ‘ informed in point of fact; for, from
 ‘ my

‘ my own experience of five-and-twenty years, as well as upon the most accurate information, which, as it was my indispensable duty, I have made my particular business to procure from others, I will venture to assert, that instead of only four or five women being saved out of fifty, the proportion is at least reversed, and the number stated in the quotation to be saved is at most the number lost *. One chief intention of this essay was, to endeavour to diminish, at least, if not absolutely supersede, the necessity of the Cæsarean operation, and to substitute the use of the crotchet in its stead. To effect this purpose, I have repeatedly insisted upon the acknowledged fatality of that operation, and the comparative safety of the crotchet; and I have endeavoured to demon-

* This assertion is answered in Letter v. p. 65. & seq.

‘ strate upon principle, and confirm by
‘ experiment, the possibility of the suc-
‘ cessful application of that instrument
‘ in very many of those deformed pel-
‘ vises where that fatal operation has
‘ usually been resorted to, and is still
‘ invariably recommended. But if only
‘ one woman has been lost out of ten
‘ by the Cæfarean operation, and only
‘ one out of the same number saved
‘ when the crotchet has been used, if this
‘ direct or implied representation of the
‘ event of the two methods given by
‘ Professor Hamilton be true, mine must
‘ be false: and if the practice he recom-
‘ mends be right, mine must be obvi-
‘ ously and ruinously wrong. But,
‘ as I am persuaded Professor Hamil-
‘ ton has been betrayed into a hasty
‘ opinion, in one instance, from want of
‘ the best information, and in the other
‘ from actual misinformation; so I trust,
‘ that upon this suggestion, his candour
‘ and

‘ and maturer judgement will lead him,
 ‘ at least to correct, if not altogether
 ‘ retract an opinion demonstrably ill
 ‘ founded; an opinion too, not upon a
 ‘ speculative point, or of a trivial na-
 ‘ ture, but of the first practical import-
 ‘ ance, involving in its probable conse-
 ‘ quences the dearest interests of huma-
 ‘ nity, and than which nothing may
 ‘ eventually be of greater moment to
 ‘ those persons, who, from extreme
 ‘ deformity, unhappily become the ob-
 ‘ jects of its influence.’

SUCH, Sir, is your representation of
 my sentiments on this subject, founded
 on a superficial view of the quotation
 detailed in my preceding letter, and
 supported by *partial extracts*.

I HUMBLY presume, that to any un-
 prejudiced person, my opinion on the
 Cæsarean subject, explained in the Ele-
 ments,

ments, and in the former letter, is shortly this, ' That cases are on record where that operation has been successfully performed ; that there are some degrees of deformed pelvis where delivery cannot be accomplished by any other method ; that in cases of extreme deformity of the pelvis, where in London the crotchet was used previous to the 1775, the greatest number of the patients died ; that that operation is never justifiable, except where the pelvis is so much deformed as to render it impossible to extract the child by means of the crotchet ; and that one great probable cause of the bad success of the operation should be imputed to the low weak state of the patients at the time, who had previously been several days in labour, and their strength greatly exhausted before the operator was called, '

WHEN

WHEN this is compared with your representation, the difference is very obvious ; for by it I am accused of inculcating the propriety of the Cæsarean operation from its success, although I expressly observe (Elements of Midwifery, p. 292.) that ‘ The absolute impossibility of extracting a child through the aperture of the pelvis is perhaps the only circumstance that justifies the performance of the Cæsarean operation on the living subject.’

By mutilating an author’s expressions, and selecting particular passages, without adding those which explain or elucidate the subject, any opinion may be misrepresented, and any meaning may be applied. As an example of this evident truth, I shall take the liberty to refer to your own book. ‘ Parents may, I think, be literally said to suffer nothing by the loss of an unborn child. To

' To society likewise the loss of any in-
 ' dividual child must be exceedingly
 ' small, when it is known by daily ob-
 ' servation what great numbers of chil-
 ' dren are stillborn, or die without such
 ' violence before birth ; when it is like-
 ' wise known, how very precarious is
 ' the chance of a child's living two
 ' years, but how most of all precarious
 ' is its arrival at that period of life, when
 ' it can be of any service to his fellow-
 ' creatures, or even participate itself in
 ' the enjoyments of the world *.'

WERE I disposed to misrepresent your
 meaning, how easily could I adduce this
 quotation to prove, that you assert that
 the child is at all times to be to-
 tally disregarded, and that no practi-
 tioner should ever hesitate to sacrifice it,

* Essay on Laborious Parturition, p. 44. and 45.—
 Essays on the Practice of Midwifery, p. 209. and 210.

when

when he finds it suit his own ease or convenience; for certainly this *implied representation* might be given, did I with-hold the following sentence: But, as candour has always been my rule of conduct, I should recoil at the idea of such injustice.

‘ In estimating the value of the life
 ‘ of the unborn child at so low a rate, I
 ‘ most earnestly request,’ (you very properly say), ‘ that the medical reader
 ‘ will never lose sight, that it is only in
 ‘ comparison with the mother, or when
 ‘ the child’s life is put in competition
 ‘ with her safety, that any arguments
 ‘ on this score are entitled to the smallest weight.’

I apprehend, that by your leaving out the sentence which immediately follows, (being part even of the same paragraph), that which you have quoted as

E

my

my opinion on the Cæsarean operation *, you have [misrepresented my sentiments as much as if I had left out the last sentence quoted from you. Although you will find this in my second letter, yet I cannot avoid repeating it again, in order to inforce the truth of my assertion.

You quote, ‘ There are on record above seventy well attested histories, wherein it (the Cæsarean operation), has been successfully performed; for, of all the cases related by authors, it has not proved fatal to the patient above once in nine or ten instances, which evidently shews the propriety of the practice, and probability of success, both in regard to the mother’s own recovery, and for certainly preserving the life of the child.’ How differently

* Essay on Laborious Parturition. p. 244.

does my opinion appear, when the paragraph is continued. ' But it should never be attempted, excepting in those cases only where it is absolutely impossible to deliver the woman by any other means whatever,' * &c.

HAD you contented yourself with simply stating, that my calculations of the probability of success, from the cases then on record, were obviously wrong, you would have advanced a truth which I had acknowledged in my class for above four years before your essay was published.

I have the honour to be, &c.

* Elements of Midwifery, p. 250.; and see last letter, p. 14.

LETTER IV.

SIR,

I WISH I could now proceed to that part of my proposed task, which I undertake with pleasure, viz, that which relates to professional subjects; but I feel myself reluctantly obliged to continue the subject of my last letter.

WHEN I first read your Essay on Laborious Parturition, (as I have already mentioned), the greatest part of my Outlines was printed; and therefore I was under the necessity of noticing those parts of your essay which relate to me, in an appendix.

THE part of the appendix which belongs to the present subject, I shall now insert.

THE

' THE calculation of the successful
 ' cases in which the Cæfarean operation
 ' was performed, was taken from old
 ' authors, exclusive of unfortunate ca-
 ' ses in Britain; and the author candid-
 ' ly acknowledges the mistake into
 ' which they had led him. He cannot
 ' avoid, however, expressing his surprise,
 ' that Dr Osborn should have so far
 ' misunderstood his meaning, as to in-
 ' sinuate, that he would ever recom-
 ' mend the operation to be performed
 ' on the living subject, except in those
 ' rare cases where it appeared absolutely
 ' impossible to extract a child through
 ' the aperture of the pelvis *, and to a
 ' deficiency of space in the bony cavi-
 ' ty alone, he expressly confines it, viz.
 " Where the transverse diameter at the
 " brim measures from one to not exceed-
 " ing two inches."

* The paragraphs alluded to, were here added in a
 note.

' His

' His motives for mentioning the ca-
 ' ses in which the operation had been
 ' performed, were to shew, from au-
 ' thentic records, that it is practicable,
 ' and to regret the imperfection of an
 ' art which obliges us sometimes to
 ' have recourse to the dreadful alterna-
 ' tive of witnessing the unsuccessful
 ' efforts of nature in her last feeble
 ' struggles, or by a desperate effort of
 ' the limited powers of surgery, offer
 ' our assistance.'

' DR OSBORN asserts, " that a child
 " can be extracted by embryulcia
 " through a pelvis, whose aperture
 " from pubis to sacrum measures only
 " one inch and a half, dimensions much
 " less than what have been invariably
 " supposed to require the Cæsarean ope-
 " ration, even in the latest and best
 " books." ' And by this means he
 ' hopes to diminish, if not supersede
 ' the

‘ the necessity of the Cæsarean section,
 ‘ by substituting the crotchet in its
 ‘ stead.’ He goes farther, and endea-
 ‘ vours to prove, (p. 251. and 252),
 “ That the head of a mature foetus
 “ may be safely extracted with the
 “ crotchet, its volume having been pre-
 “ viously lessened, wherever there is a
 “ space equal to one inch and a half
 “ from pubis to sacrum,” ‘ and asserts,
 “ that in these circumstances, delivery
 “ may be *always* effected with safety to
 “ the mother.”

‘ THE world is infinitely obliged to
 ‘ this author for the uncommon pains
 ‘ he has taken to shew, “ What are the
 “ smallest possible dimensions of the
 “ pelvis through which a child, with
 “ its head opened, can be extracted
 “ with safety to the mother, by means
 “ of the crotchet.” ‘ I hope and earnest-
 ‘ ly wish, for the honour of the profes-
 ‘ sion,

fion, and credit of Dr Osborn, that
 ‘ his data may be well grounded, and
 ‘ that the result may prove adequate to
 ‘ his expectations. But though the di-
 ‘ mensions of the pelvis may be capable
 ‘ of mensuration with mathematical
 ‘ precision, yet the difference in the
 ‘ bulk and solidity of childrens heads
 ‘ cannot be so easily ascertained ; nor
 ‘ can I agree with Dr Osborn, when he
 ‘ says, (p. 27.) “ We are in possession,
 “ however, of the means of determining
 “ it with exactness sufficient to direct our
 “ practice in the safest and best manner.”

‘ THE case of Elizabeth Sherwood,
 ‘ (p. 73.) shews the possibility of per-
 ‘ forming delivery with the crotchet in
 ‘ circumstances hitherto deemed unfavourable and desperate. But in a
 ‘ pelvis of a similar construction, various causes may concur to disappoint
 ‘ our views, and baffle our attempts ;
 ‘ or,

' or, from the obstacles that necessarily
 ' occur, delivery must always be pre-
 ' carious in the consequences, and this
 ' will diminish the value of the advan-
 ' tages we might otherwise expect to
 ' derive from this very important dis-
 ' covery. Besides, few operators, du-
 ' ring an extensive practice, have pro-
 ' bably acquired the dexterity and skill
 ' which Dr Osborn so happily possesses.

' To conclude : Though we allow
 ' the whole of Dr Osborn's postulata,
 ' it must still be acknowledged, that
 ' cases sometimes, though seldom, oc-
 ' cur in which a dead child cannot be
 ' extracted by the scissars and crotchet,
 ' even in the hands of the most skilful
 ' and dexterous practitioner.—Shall we
 ' then be unconcerned spectators of the
 ' fatal event that must ensue ? Or shall
 ' we dare to interfere, and by an opera-
 ' tion apparently cruel, and from its

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con-

‘ consequences desperate, make a last
 ‘ effort of that assistance which our li-
 ‘ mited art affords in behalf of our pa-
 ‘ tient?’

IN the year 1791, I took the opportunity of a new impression of my Outlines, to urge the same objections, tho’ in fewer words; and instead of the appendix, I contented myself with stating the following observations on that subject; but unwilling to keep up the remembrance of any misunderstanding, I purposely avoided mentioning your misrepresentation of my opinions.

‘ WE are sorry we cannot agree with
 ‘ the ingenious Dr Osborn on this occa-
 ‘ sion. He says, “ Whenever there is
 “ a space from pubis to sacrum, or
 “ from the fore to the hind part of the
 “ upper aperture, equal to an inch and
 “ a half, I am convinced it will be al-
 “ ways

“ ways practicable to extract a child by
 “ the crotchet after the head has been
 “ some time opened, and the texture of
 “ the child’s body is softened by putre-
 “ faction, and the whole of the parietal
 “ bones are picked away, and that with
 “ tolerable facility to the operator, and
 “ perfect safety to the patient.” ‘ And in
 ‘ the next page he observes, “ Thus the
 “ Cæsarean operation may with certain-
 “ ty be avoided in all dimensions great-
 “ er than those above described ; or, in
 “ other words, it is never absolutely
 “ necessary where the small diameter
 “ from pubis to sacrum measures com-
 “ pletely one inch and a half ; or,
 “ which is not unusual, where there is
 “ a space equal to that width on either
 “ side of the projecting sacrum.” ‘ Dr
 ‘ Osborn allows, that the basis of the
 ‘ cranium cannot be broken and ex-
 ‘ tracted piece-meal, as the other bones
 ‘ of the head, and that it generally mea-

' fures one inch and an half, feldom
 ' quite fo much. If this be the cafe,
 ' then, and my own obfervation and
 ' experience have long ago led me to
 ' draw the fame conclufion, no man
 ' will argue, that when it is joined to
 ' the body of the child, it can be drawn
 ' through an aperture of the fame width
 ' in its whole extent, much lefs " on ei-
 " ther fide" ' of the projection of the fa-
 ' crum, whatever way it be turned; for
 ' furely the neck of the child muft add
 ' fomewhat to the volume of the head.
 ' Befides, every practitioner will allow,
 ' that in fuch dimenfions of a pelvis it
 ' will not be a very eafy matter to " pick
 " away the frontal and parietal bones,"
 ' from the difficulty of uſing inſtru-
 ' ments with ſafety in ſuch cafes: be-
 ' fides, the difference in ſize and ſtruc-
 ' ture of childrens heads ought not to
 ' be overlooked. It may be objected to
 ' this reaſoning, that Elizabeth Sher-
 wood,

‘ wood, the dimensions of whose pelvis
 ‘ we have already stated, was safely deli-
 ‘ vered by Dr Osborn of a “moderately-
 ‘ sized child at full time.” To this ob-
 ‘ jection I shall answer in the Doctor’s
 ‘ own words, “ No discreet or sober-
 ‘ minded man, however personally in-
 ‘ terested in the event, is very sanguine
 ‘ in his expectation from the successful
 ‘ issue of a single case, be the cure ever
 ‘ so complete.”

‘ It must therefore be allowed, that
 ‘ cases sometimes occur in which a dead
 ‘ child cannot be extracted by the ope-
 ‘ ration of embryulcia, even by the most
 ‘ skilful and dexterous practitioners.’

WHEN your Essays on the Practice of
 Midwifery were put into my hands, I
 naturally looked for some answer to
 these objections, from the zealous inter-
 est which I take in every professional
 subject;

subject ; but I was both astonished and mortified on finding, instead of a candid discussion of these opinions, the observations I now quote.

‘ THE following conclusion,’ you say,
 ‘ was annexed to this last essay, when
 ‘ it was first published under the title
 ‘ of an Essay on Laborious Parturition,
 ‘ several years ago ; and as this is only
 ‘ a new edition of that work, it has
 ‘ been thought right to republish this
 ‘ part, although Dr Hamilton, as I was
 ‘ sure he must, upon what was suggested
 ‘ in the following pages, has retracted
 ‘ or corrected his most mistaken
 ‘ opinions and assertions ; yet, for obvious
 ‘ reasons, I have chosen to reprint
 ‘ this conclusion nearly as it stood
 ‘ in a former edition, and in a postscript
 ‘ I will not omit to do justice to Dr
 ‘ Hamilton in all respects *.’

* *Essays on the Practice of Midwifery*, p. 434.

‘ AFTER

AFTER having repeated the observations contained in the conclusion already detailed in the preceding letter, you add :

‘ THE confidence which I formerly
 ‘ expressed, that Dr Hamilton’s can-
 ‘ dour and maturer judgement, would,
 ‘ upon the suggestion made above, in-
 ‘ duce him at least to correct, if not al-
 ‘ together retract his hasty opinion on
 ‘ this subject, is now proved to have
 ‘ been well founded ; for in the two
 ‘ last editions of his book, &c. he has en-
 ‘ tirely abandoned all his erroneous opi-
 ‘ nions, and exactly adopted the senti-
 ‘ ments of this essay ; without, however,
 ‘ acknowledging (which I think in can-
 ‘ dour he should have done) that the re-
 ‘ presentation and suggestion in this con-
 ‘ clusion had produced not only that en-
 ‘ tire dereliction of his former assertions,
 ‘ but the adoption of the very opinions
 ‘ declared

' declared in this essay, although directly
 ' opposite to his former sentiments on
 ' this subject. Had Dr Hamilton so
 ' done in his two last additions, the
 ' whole of this conclusion of the Essay
 ' on Laborious Parturition should never
 ' have been reprinted, but the Doctor's
 ' most unaccountably erroneous opi-
 ' nions, and the observations upon them,
 ' should have been buried in eternal ob-
 ' livion *.'

PERMIT me to observe, Sir, that you
 have in this postscript advanced an asser-
 tion which the preceding letters com-
 pletely refute ; for since 1775 my senti-
 ments on the Cæfarean operation have
 been invariably the same, although,
 as I publicly acknowledged in every
 course of lectures for four years pre-
 vious to your Essay, my calculation on

* Essays on the Practice of Midwifery, p. 444. &c.

the event of the operation taken from old authors was erroneous.

In my Outlines of Midwifery, (1783,) I expressly say, (p. 326.) ‘ That the
‘ aperture of the pelvis is in some cases
‘ so narrow from distortion, as to prove
‘ an insurmountable obstacle to the
‘ passage of the child by embryulcia,
‘ the histories of the Cæsarean section,
‘ in the 4th and 5th volumes of the
‘ London Essays, already referred to,
‘ afford striking and incontestible exam-
‘ ples.

‘ In the pelvis of a woman on whom
‘ the Cæsarean section was performed
‘ by Dr Young, late professor of mid-
‘ wifery in this university, the trans-
‘ verse diameter at the brim does not
‘ measure above $1\frac{3}{4}$ inches at one
‘ side, the bones of the pubes are bent,
‘ and refuse admittance to a finger

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‘ at

' at the arch, the sacrum is convex an-
 ' teriorly, the anchylosed coccyx is an-
 ' gulated, and the distance from it to
 ' the tuberosities of the ischia is some-
 ' what less than $1\frac{3}{4}$ inches. In a pelvis
 ' of this construction, where the bot-
 ' tom, and indeed whole capacity, are
 ' affected by the distortion, embryulcia
 ' could scarce be attempted.

' In a collection of bones in my pos-
 ' session, the construction of a distort-
 ' ed pelvis of a female skeleton is still
 ' more unfavourable for the operation of
 ' embryulcia, than any of those yet men-
 ' tioned. The diameters at the brim
 ' are almost entirely destroyed by the
 ' projection of the lumbar vertebræ, and
 ' convexity of the sacrum, the distance
 ' at one side from the sacrum to the ili-
 ' um being $\frac{3}{4}$ of an inch only.

' It is sufficiently apparent that here
 ' nothing

‘ nothing but the Cæsarean section could
 ‘ give the patient the most distant
 ‘ chance of life from the danger which
 ‘ threatened.

‘ It is probable, therefore, that a fault-
 ‘ ty pelvis, whose smallest diameter at
 ‘ the brim, or at the bottom, does not
 ‘ exceed $1\frac{1}{2}$ inch or $1\frac{3}{4}$, is one motive
 ‘ for the desperate resource of the Cæ-
 ‘ sarean section. The difference in the
 ‘ size and structure of a child’s head
 ‘ may also render it necessary, where the
 ‘ transverse diameter of the superior a-
 ‘ perture of the pelvis and lateral one of
 ‘ the outlet, somewhat exceed the di-
 ‘ mensions just now mentioned.’

In the last edition of the same work,
 besides the above quotation, I observe,

‘ It must therefore be allowed, that ca-
 ‘ ses *sometimes* occur, in which a dead
 ‘ child cannot be extracted by the ope-

‘ration of embryulcia, even by the
 ‘most skilful and dexterous practition-
 ‘er.’

I shall leave it to your own decision, as *a man of honour*, whether I have, in these two editions, exactly adopted the sentiments expressed in your Essay. When these quotations are compared with your opinions, you will find that our sentiments were, and still are, widely different.

‘It’ (the Cæfarean operation), you remark, ‘is never absolutely necessary
 ‘where the small diameter from pubis
 ‘to sacrum measures completely one
 ‘inch and a half; or (which is not un-
 ‘usual) where there is a space equal
 ‘to that width on either side the pro-
 ‘jecting sacrum *.’

Essay on Laborious Parturition, p. 66. Essays on
 the Practice of Midwifery, p. 232.

HAVING

HAVING now clearly, I hope, proved that there is no variation in my sentiments on this subject, and that the opinions expressed in your Essay are not adopted by me, as you pretend, you will allow, that you have injured me much, in requiring that I should have acknowledged that your representation and suggestion had induced me to abandon my former ideas on this subject.

I have the honour to be, &c.

LETTER V.

SIR,

HAVING in the preceding letters shown, that my opinions on the Cæfarean

farean operation have been decidedly the same, since my first publication, contrary to your assertions; I now propose to state, at considerable length, the arguments on which my opinions on this subject are founded. These you will find shortly enumerated in my third letter. I shall consider each of them separately, as stated in it.

1. *Cases are on record where that operation has been successfully performed.* This fact is incontrovertible; for this formidable operation has been attended with success on the Continent, in the West Indies, and in America, not in 'one or 'two instances,' but in above *thirty* within these fifty years. Baudeloque says, (paragraph 2094.) 'The collection 'of M. Simon, inserted among the Memoirs of the Royal Academy of Surgery, contains seventy or seventy-two of these cases, in which we observe

'serve

‘ serve that the operation has been per-
 ‘ formed with success *, and we might
 ‘ at present add an equal number to
 ‘ them †.’

M. DELEURYE observes, (p. 373.)
 ‘ Cette opération a été faite plusieurs
 ‘ fois à la même femme; des mains
 ‘ grossières et inexpérimentées l’ont pra-
 ‘ tiquée, et elle a réussi. Que de succès
 ‘ ne devons-nous pas espérer lorsque des
 ‘ mains adroites, savantes, dirigées par
 ‘ l’art, l’exécuteront !’

* It was from this collection that I inadvertently de-
 duced my calculation of the successful cases in my first
 publication, but without meaning to imply any argu-
 ment in favour of the operation, except where *no other*
means can be employed.

† Since the above was written, Mr Hoffman of Prus-
 sia, with whom you are acquainted, has informed me,
 that the Cæsarean operation has, within these ten years,
 been very often successful in different parts of Germa-
 ny, and that the unsuccessful cases have been chiefly
 those where the operation was delayed too long.

2. *There are some degrees of deformed pelvis where delivery cannot be accomplished by any other method.* This is I think sufficiently proved by the description of the skeleton in my possession, and of the pelvis of the woman on whom Dr Young operated *. You have urged an objection to this argument, which I confess surprises me very much. ‘ I am ‘ inclined to believe,’ you say, ‘ That ‘ the necessary organs cannot be so constructed, as to permit conception to ‘ take place, and gestation to proceed to ‘ its completion, (while the other functions are going on), where the pelvis ‘ is so deformed in shape, and so contracted in capacity, as not to allow ‘ of a child’s being extracted through ‘ the natural passage by the crotchets in a ‘ putrid and reduced state.’ This ob-

* See p. 49. and *Outlines of the Theory and Practice of Midwifery*, p. 328.

fervation,

servation from a young practitioner
 would only have excited a laugh from
 me; but when I consider that it is ad-
 duced by you, I regret very much
 that prejudice should have so far in-
 fluenced you as to have even suggested
 such an idea, and that prudence should
 have so far forsaken you as to have al-
 lowed it to be published to the world.
 But, as perhaps the fault is to be im-
 puted solely to your memory, I shall
 take the liberty to transcribe to you an
 extract of Dr Cooper's account of the
 last case of the Cæsarean operation in
 London: it contains a fact which com-
 pletely overthrows your erroneous as-
 sertion. Dr Cooper, (Medical Observa-
 tions and Enquiries, vol. 5.) says,

' WHEN in labour of her eighth child,
 ' she was a patient of the Lying-in Cha-
 ' rity for delivering poor married wo-
 ' men at their own habitations, to
 H ' which

' which I am one of the physicians.
 ' The attending midwife, therefore, af-
 ' ter waiting a proper time, sent for
 ' me on December 18. 1770. The pelvis
 ' then appeared to be somewhat less
 ' than two inches and a half from the
 ' symphysis of the ossa pubis to the su-
 ' perior projecting part of the os sacrum,
 ' and otherwise very badly formed. On
 ' this account, I was likewise obliged to
 ' have recourse to the disagreeable opera-
 ' tion of embryotomy to accomplish the
 ' delivery. Previous and subsequent to
 ' this labour, she was much afflicted
 ' with an extreme difficulty of brea-
 ' thing, which frequently seemed to
 ' threaten immediate suffocation. By
 ' degrees, however, she somewhat re-
 ' covered from the complaints incident
 ' to childbirth, yet remained still in
 ' that deplorable state of total inability
 ' to move about, in which she had been
 ' for many months before; the dysp-

' næa also continued, though with aba-
 ' ted violence ; and the deformity of her
 ' body was continually increasfing. She
 ' was indeed fo totally helpless from the
 ' beginning of this pregnancy to the time
 ' of her death, that she was scarce ever
 ' able, without affiftance, even to turn
 ' herself in her bed. On this account,
 ' she generally lay nearly on her back,
 ' only a little inclined to her right fide.
 ' When in bed, also, her head and shoul-
 ' ders were obliged to be constantly sup-
 ' ported very high, to facilitate her ref-
 ' piration, and likewise to relieve a ve-
 ' ry troublesome cough ; and when up,
 ' she was generally feated in an arm-
 ' chair, with her feet refting on a ftool ;
 ' and her body commonly remained in
 ' an almost fixed pofture, till she was re-
 ' moved. Her hands and arms were fo
 ' weak, that when she wanted to lift ei-
 ' ther of them towards her head, she
 ' was obliged to fupport it with the o-
 ' ther.

' ther. Notwithstanding these unfavourable
 ' circumstances, she miscarried again in July 1771, when she
 ' was only ten weeks advanced in her pregnancy; and for many months after
 ' this event, she suffered greatly from an increase of her numerous
 ' complaints,

' SHE now appeared to be little more than an unwieldy lump of living flesh;
 ' however, about the middle of November 1773, she was so very unfortunate
 ' as to prove again with child. During the whole of this her last pregnancy, but
 ' especially towards the latter end of it, the various symptoms already enumerated
 ' were extremely troublesome, and sometimes almost insupportable. The
 ' disorder extended now even to the vertebræ of the neck, and rendered
 ' them so feeble, as to be unable to support her head; On this account it turned
 ' ed

' ed always to one side, and rested by
 ' the chin upon her left shoulder, which,
 ' from that circumstance, was depressed
 ' considerably lower than the right.
 ' The spine was very much distorted,
 ' and her body greatly bent forwards.
 ' She complained, however, always
 ' more of her right side than of her
 ' left.

' THUS protracting a kind of a dying
 ' life, she accomplished, according to her
 ' own reckoning, the usual period of
 ' gestation, and was taken with linger-
 ' ing pains on Thursday morning, the
 ' 11th of August last. These went off
 ' and recurred at times; but in such a
 ' manner, that she happily obtained
 ' some refreshing sleep on Thursday
 ' night, &c.

' UPON a careful examination during
 ' a pain, I found the os tinæ thin,
 ' yielding,

' yielding, and dilated to nearly the
 ' bigness of a shilling. The liquor am-
 ' nii had come away about an hour,
 ' and the head of the child was just
 ' perceivable to the touch ; but the pelvis
 ' appeared to me so extremely narrow
 ' and ill formed, as not to admit of a
 ' possibility for the child (which was
 ' remarkably brisk and lively) to be
 ' delivered, even by the painful opera-
 ' tion of embryulcia ; the Cæsarean ope-
 ' ration seemed therefore the only alter-
 ' native.

' Alarmed at finding this miserable
 ' object in such a distressed situation, I
 ' immediately sent for my worthy friends
 ' Dr John Ford, the consulting Physi-
 ' cian, and Dr Cogan, my colleague, in
 ' the above-named institution ; and in
 ' the *interim* I recorded, in an adjoining
 ' room, principally from her own lips,
 ' many of the circumstances here rela-
 ' ted.

ted. In these notes I also remarked, that the pelvis then appeared to me to be about an inch and a quarter from the symphysis of the ossa pubis to the projection at the upper part of the os sacrum, and gradually to become narrower and narrower on each side, till it terminated laterally in a very small point indeed. The rami ischii were likewise evidently almost close together. It must, however, be remembered, that the various contents of the pelvis in situ contribute somewhat to diminish its general dimensions*.

THAT this calculation of the dimensions of the pelvis was found after the death of the patient to be just and accu-

* It is a remarkable circumstance, that in your Essay on Laborious Parturition you have never taken any notice of the two cases where the Cesarean operation was performed in London.

rate,

rate, I need not add to you, as you must have repeatedly seen the real pelvis in the late Dr Hunter's collection.

HAD I not thought that this well-known fact affords a sufficiently striking contradiction to your assertion, I might have also detailed to you the history of one of the women on whom Dr Young operated. The pelvis is in my possession. I may add, that the opinion of your old friend, Dr Denman, on this subject is completely opposite to yours. 'Melancholy are the reflections when a woman has a very much distorted pelvis, and such women *have usually a wonderful aptitude to conceive* *.'

I trust that no additional arguments on this score are necessary to induce you to retract an opinion evidently hastily

* An Essay on difficult Labours, part 3. and last, by Thomas Denman, M. D. &c. p. 18.

formed,

formed, and inadvertently proposed ; for you have here the authentic history of a case, where a woman, with a pelvis so very faulty, that there neither was the space of an inch and a half between the sacrum and pubis, nor on either side of the projecting sacrum, conceived, and carried the child to the full time.

3. *In cases of extreme deformity of the pelvis, where in London the crotchet was used previous to the year 1775, the greatest number of the patients died.* In my Elements of Midwifery I stated the proportion of deaths from the operation of embryulcia, in the following words. ‘ In the city of London, ‘ during the course of the last hundred ‘ years, of above fifty women who have ‘ presented to the different practitioners, ‘ and in the different hospitals, with ‘ narrow pelvises, that is, from one inch

I

‘ to

‘ to little more than two at the widest
 ‘ diameter, no more than four or five
 ‘ of this number have been saved, and
 ‘ the whole of the children have been
 ‘ destroyed.’

THIS information I received from the late Dr Colin Mackenzie. It appeared so important a fact to me, that I took a note of it, and read it over to him, that I might not be mistaken. Having learned that this assertion was contradicted by several London teachers, and denied by yourself, unwilling to enter into any controversy, instead of repeating the same observation in my Outlines, or mentioning the name of the late Dr Mackenzie, I said, (p. 319.), ‘ In
 ‘ the city of London, during above a
 ‘ hundred years, of between fifty and
 ‘ sixty women, whose pelvises have
 ‘ been much distorted, the Cæsarean
 ‘ section has only been performed in
 ‘ two

' two instances, viz. by Mr Thomson,
 ' surgeon to the London Hospital, and
 ' by Mr J. Hunter. In all others, the
 ' child was delivered by embryulcia;
 ' yet I am well informed, not above
 ' five or six of the whole number of wo-
 ' men just now mentioned, died in con-
 ' sequence of the violence employed
 ' in delivering with the crotchet;' and
 in a note, I acknowledged the mistake
 into which I had been formerly led by
 misinformation. Your Essay on Labo-
 rious Parturition, however, I suspect,
 warrants my former assertion. You
 observe, (p. 50.), ' But in hope and ex-
 ' pectation, that the child may die be-
 ' fore it is absolutely necessary to per-
 ' form this operation, (embryulcia), we
 ' are often induced, I am afraid, to wait
 ' much longer than is consistent with
 ' the mother's safety; and then, shock-
 ' ingly to humanity, and disgracefully
 ' to the profession, both parent and

‘ child are involved in one common
 ‘ death.

‘ I have been much misinformed, if,
 ‘ upon this ground, and to gratify the
 ‘ scrupulous feelings or mistaken prin-
 ‘ ciples of otherwise able and worthy
 ‘ men, *many* valuable women have not
 ‘ lost their lives in this country, and
 ‘ even in this city.’ I confess this obser-
 vation is a little inconsistent with your
 remarks on my statement; in speaking
 of which you say, ‘ I will venture to
 ‘ assert, that instead of only four or
 ‘ five women being saved out of fifty,
 ‘ the proportion is at least reversed, and
 ‘ the number stated in the quotation to
 ‘ be saved, is at most the number *lost*.’

THE fact probably is, that in this re-
 spect we are both equally wrong in our
 calculation; that Dr Mackenzie may
 have stated the proportion of women lost
 at

at somewhat too much, I will not deny; and that you have stated it at too little, your own words testify. In corroboration of which, it may be alleged, that no single person can ascertain, with mathematical precision, the number of patients lost in the city of London, by the operation of embryulcia, for these last twenty years, much less for a hundred; for two reasons, *1st*, As that operation is often, I am afraid too often, performed, where there is little or no deformity of the pelvis, it must necessarily appear to be very often successful, in so far as regards the mother, from the obvious circumstance, that the patient is not exposed to those dangers which attend it when the pelvis is very much deformed; and *2^{dly}*, That when cases of such difficulty occur, as to endanger the life of the patient, if the event is unfortunate, the practitioner, from interested motives, feels himself

self obliged to conceal the history of the case as much as possible.

If I could think it justifiable to deduce *general* conclusions from one or two *particular* facts, I might, with much plausibility, urge in favour of the probable justness of Dr Mackenzie's remark, that before your case of Elizabeth Sherwood, the chief authentic instances on record, where the operation of embryulcia was performed on women whose pelvises measured from "one to two inches," are examples of fatal events succeeding the operation *. But I shall content myself with appealing to yourself, Dr Gartshore, Dr Orme, Dr Denman, and Dr Lowder, first, Whether it does not consist with your knowledge, that several women have died after the operation of embryulcia with-

* See Dr Kellie's case, detailed in Dr Wallace Johnson's System of Midwifery.

in these twenty years in London; and whether, in by far the greatest number of these cases, the pelvis was not *very much* deformed? and secondly, Whether it does not also consist with your knowledge, that several women have lived after that operation; and whether, in these favourable instances, the great, or rather by far the greatest number, had no deficiency in the pelvis under two inches and an half?

As it may perhaps be fair to conclude, that if one or two successful cases only can be put in competition with even four or five unfortunate ones within these twenty years, when the manner of using instruments is so much better understood than it was formerly; so, considering the state of practice for eighty or ninety years preceding these twenty, it is surely no false calculation, to reckon the proportion of patients saved

ved by the use of the crotchet during that period, where the pelvis was very narrow, as four or five out of fifty.

As three cases occurred to yourself and Dr Clarke within the space of ten years, where the short diameter of the pelvis was, "from one to two inches" only, I might, were it my intention to treat this as a personal controversy, prove, that your denying * the possibility of the occurrence of fifty such cases within a hundred years, does not evince that acuteness of reasoning, for which I know you are justly and eminently celebrated. It may probably be consistent with sound principles to argue, that if three cases occur to two practitioners in ten years, fifty will be

* See the quotation in letter 3. p. 26. from the 248th page of your Essay on Laborious Parturition.

the smallest number which will occur to all the practitioners of London in a hundred years. Although this observation would not have been applicable, if you had not retained the expression alluded to in your Essays on the Practice of Midwifery, yet it should suggest to every author, the care with which he should avoid endeavouring to determine the powers of nature, by his own comparatively limited experience.

BUT, without pretending to ascertain this proportion with the accuracy of a mathematician, I shall take the liberty to believe, not on the authority of any individual, but on the united testimony of many persons, received at different times, and through different channels, that in cases of extreme deformity of the pelvis, where, in London, the crotchet was used for a hundred years previous to the 1775, the greatest

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number

number of the patients died. As this opinion, originally advanced in my Elements, does not rest on the information of any individual, so I must be excused from allowing it to be overturned by the assertion of any single person.

4. *That operation is never justifiable, except where the pelvis is so much deformed as to render it impossible to extract the child by means of the crotchet.* In this opinion I believe we coincide, although we differ very much in our sentiments on the *degree of deformity* which will render it impossible to extract the child by embryulcia. As this, however, forms part of the subject of my next letter, I shall pass it over on this occasion,

LASTLY, *The great probable cause of the bad success of the operation, should be imputed to the low weak state of the patients*
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at the time, who had been previously several days in labour, and their strength greatly exhausted, before the operator was called. Of this fact, notwithstanding your assertion to the contrary, I am still convinced; and the history of every case where it has been performed in Great Britain, which has been published, fully justifies my observation. The two cases which occurred in London, although under the management of the most celebrated men of the profession, clearly confirm my opinion. It cannot be supposed, that I mean to insinuate any reflection against the operators in such cases; for it must undoubtedly require much deliberation before an operation of such consequence can be undertaken; and therefore, a considerable space of time will elapse before it is performed. My remark was made merely with a view to prevent practitioners from waiting, in cases of

extreme deformity of the pelvis, till the powers of nature be exhausted, before they call that assistance in consultation, by which the method of treating the patient is to be determined.

I have thus explained my sentiments on this important subject. In my next letter I shall exhibit the objections which I have offered in the Outlines, against your opinions.

I have the honour to be, &c.

LETTER VI.

SIR,

IN order to accomplish, in a satisfactory manner, the task which I have undertaken

undertaken in this letter, it is necessary to mention shortly the principles which you endeavour to establish in your Essay: this I shall attempt to do with candour and impartiality.

IN the first edition of your Essay on Laborious Parturition, you say, that by opening the child's head early, and discharging the brain, &c. it is possible, after putrefaction shall have taken place, and the basis of the head shall be reduced to one inch and a half in width, to extract the child by the crotchet, with tolerable facility to the operator, and perfect safety to the patient, where the transverse diameter of the pelvis at the brim measures one inch and a half, or where there is a space equal to that on either side of the projecting sacrum; and that therefore the Cæsarean operation, which is certainly fatal to the mother, may be almost superseded, and at least

least avoided in cases where it has hitherto been invariably advised. In your *Essays on the Practice of Midwifery*, you carry this idea much farther; for you expressly remark, (p. 470), that

- deplorably trifling must have been
- our advances in the science of mid-
- wifery, compared with other bran-
- ches of the practice of physic and
- surgery, if, at the end of the eigh-
- teenth century, we are not able to
- banish from practice, the only ope-
- ration which has continued to dis-
- grace our profession for three hun-
- dred years.'

THE objections against the doctrines laid down in your *Essay on Laborious Parturition*, stated in my *Outlines*, are,

- 1st, That cases have happened, and may occur, where the pelvis is under the dimensions regarded by you as the smallest in which the operation of embryulcia

bryulcia is practicable. *2dly*, That although we may be able to measure the pelvis with mathematical accuracy, yet the difference of size and structure of the child's head may be such, that in some cases it will not be easy to reduce it to one inch and a half at the basis. *3dly*, That even allowing the dimensions of Elizabeth Sherwood's pelvis to be accurate, the obstacles which will occur in similar cases to practitioners possessing less dexterity and skill than you, and the dangerous bruises which the patient will necessarily suffer, do not justify the use of the crotchet in every instance of so great deformity. In my last edition, I urged further, *4thly*, That if the basis of the head can only be reduced by the operation of embryulcia to the width of an inch and an half when turned sideways, I cannot conceive, that when joined to the body of a child, it can be drawn through an aperture

aperture of the same width, even in its whole extent, much less on either side of the projecting sacrum; for that the neck must add somewhat to the volume of the head. And 5thly, That in such dimensions of a pelvis, it will not be a very easy matter to reduce the head to that size, from the difficulty of using instruments with safety in these cases*.

I have here an additional opportunity of pointing out your error, in asserting, that I have in these two editions adopted the sentiments expressed in your Essay; but this I have satisfactorily proved already. As, however, you have not answered any of these objections *directly*, I shall take the liberty to en-

* See Outlines of Midwifery, edition 1784, p. 425. and 426.; and in the edition of 1791, p. 330. 332. and 333.

large a little on each of them, from a regard to the interests of humanity.

1. *Cases have happened, and may occur, where the pelvis is under the dimensions regarded by you as the smallest in which the operation of embryulcia is practicable.* The most convincing evidence in proof of this assertion has been already adduced in my 4th Letter, p. 49. *et seq.*

2dly, *Although we may be able to measure the pelvis with mathematical accuracy, yet the difference of size and structure of the child's head may be such, that in some cases it will not be easy to reduce it to one inch and a half at the basis.* In the first place, I by no means allow, that the dimensions of the pelvis can be measured with mathematical accuracy, although it has been lately very commonly alleged that this can be done. That the *real* dimensions can be ascertained in the living

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subject, no one has yet ventured to assert; it must therefore be the relative proportions only which can be determined with any precision. But I apprehend, that in cases of deformity these will vary according to the state of the patient. Without supposing the rectum to be filled with fæces, (a circumstance which may happen, and which would affect the relative dimensions), it will certainly be allowed, that at the beginning of labour, in such cases, the capacity of the pelvis at the brim will differ materially from what it is after the woman has had strong labour pains for many hours, when, if the child has not entered the passage, the parts which line it, and are contiguous, must, from the long continued propelling force of the uterus, be very much swelled. And again, it must be different where, after the pains have ceased for several hours, and the great pressure is removed by
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the diminution of the head, the swelling of these parts has subsided.

THIS is not hypothetical reasoning ; for it is suggested from repeated observations in real practice. I shall mention one striking illustration of the remark.

A LADY under the care of an experienced midwife, had been in labour for three nights and two days, at the end of which time I was called.

ON examining her situation with every necessary attention, I concluded, that if the pains should continue strong for some hours, the head of the child would be completely within reach of the forceps. When, however, I had waited for a considerable time, the symptoms became urgent, and I was obliged to resolve on having recourse

to some artificial means for terminating the delivery. But I was very much astonished to find, not only that the head had not advanced since my arrival, notwithstanding very forcible pains, but also that there appeared to be a much greater deficiency of space in the pelvis than I had formerly discovered.

THE situation of the patient was however so alarming, that I was reduced to the disagreeable necessity of delivering her by the operation of embryulcia.

AFTER the child was extracted, uterine hæmorrhagy unfortunately occurred, along with adhering placenta. I was therefore obliged to introduce my hand into the uterus, in order to separate it. In doing this I found much difficulty, for there appeared so great a deficiency of space at the brim, that my hand (although very small) could not
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be passed beyond it, without being violently compressed ; but the parts lining the brim pitted considerably on pressure.

THIS circumstance induced me to impute the apparent narrowness to the swelling of the fleshy parts within the pelvis, from the long continued pressure of the child's head.

THE truth of this supposition was completely confirmed by the subsequent history of the patient ; for she was delivered, in sixteen or eighteen months afterwards, so rapidly, that a large living female child was born before any assistance could be procured.

It is very remarkable, that the same idea, deduced likewise from real observation, should have occurred to my SON, without any communication of my sentiments

timents on this subject. Although he is well acquainted with all my opinions in general, and hence is enabled to reap much advantage from the result of my experience in practice, yet I had never mentioned to him, or to any other person, my thoughts respecting this fact, till I should have had them perfectly confirmed by additional illustrations.

THE pleasure which I received, you may believe, was very great, when, in consequence of talking on your doctrines, he expressed to me the very sentiments which I had long entertained, and at the same time adduced in support of their validity the most convincing arguments, founded on practical observations *.

* It is by the assistance of my Son that I have been enabled to publish these Letters so speedily after the appearance of your Essays as you perceive I have done.

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WE have long thought, that in this way we could explain the reason for that variety in the opinion of the most experienced in the profession respecting the dimensions of the pelvis in cases of great deformity, where several gentlemen attend, which has been so often known to prevail.

If the truth of these remarks be allowed, it will be obvious, that mathematical precision in the mensuration of the pelvis can never be attained ; and it may perhaps be thence inferred, that it is impossible to determine within a quarter of an inch the dimensions of the brim of any deformed pelvis in the living body *. When the manner which we are necessarily forced to adopt, in order to ascertain the dimensions of the pelvis, is properly considered, this conclusion will appear well founded.

* Cases of extreme deformity are excepted.

I PRESUME, Sir, you will agree with me, that however ingenious the contrivance of *Pelvimeters* may be, they are, without any exception, inadequate to the purposes for which they have been proposed, and consequently, that the *band* of the operator can alone be used for ascertaining the diameters of the pelvis.

Now, when the pelvis must be measured by spreading out the fingers, it is clearly evident, that no accurate idea can be formed of the dimensions, because the distance of each finger from the other cannot be precisely known; hence the long diameter in most pelvices can never be in that way ascertained. But when the pelvis is very much deformed, the fingers cannot be spread out, and therefore as many are introduced as the parts will allow. The breadth of two, three, or four fingers, it cannot be denied, may be readily determined,

terminated, when they are applied to a graduated scale, but when they are introduced into the superior aperture of the pelvis, they must be either compressed, or must fill the space completely or incompletely : in the first case, their approximation to each other must vary ; for the fleshy part of them may be compressed, or their position may be such, that one lies over the other in a variety of degrees ; and in the latter cases, there must obviously be some obstacles to an accurate mensuration.

If, therefore, the materials of our fingers are susceptible of compression, and if the articulations with the hand admit of their being placed over each other in an infinity of degrees, it is demonstrable, that they can never be regarded as affording a means of measuring with accuracy, any part within the body ; and when the changes which the fleshy

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parts

parts within the pelvis undergo during parturition are considered, I am almost convinced, that by far the greatest number of practitioners will agree with me, that no general rule ought to be founded on calculations by which the dimensions of the pelvis are supposed to be determined even within a quarter of an inch.

WITH infinite regret I find that you differ from me *toto cælo* in this principle. The importance of the subject induces me to endeavour to shew you the impropriety and danger of your opinion; and even although I may perhaps not be able to convince you, yet it will afford me sincere and unfeigned satisfaction, if the arguments I have already offered against this dangerous doctrine, and those I shall now urge, should prevent any young practitioner, into whose hands these letters may fall, from
adopting

adopting principles which may lead him on some occasions to destroy life unnecessarily.

‘ WHENEVER (you observe *) a woman falls into labour the small diameter of whose pelvis measures only two inches and three quarters, one or two of the following circumstances must take place.

‘ FIRST, The child’s head must be opened, and the contents discharged, that the bones may be permitted to collapse; and the volume being thus diminished, it may afterwards be extracted with the crotchet. Or,

‘ SECONDLY, For the certain preservation of the child’s life, the mother

* Essay on Laborious Parturition, p. 30.; and Essays on the Practice of Midwifery, p. 194.

‘ must be doomed to inevitable destruction by the Cæsarean operation. Or,

‘ THIRDLY, As a mean between the two extremes, the mother must submit to the section or division of the symphysis pubes, an operation certainly less dangerous to the parent than the Cæsarean section, but at the same time certainly less safe for the child, Or,

‘ LASTLY, If none of these means will be permitted, the wretched mother, abandoned by art to the excruciating and unavailing anguish of labour, will probably expire undelivered.’

AND in another part * you say, ‘ I

* Essay on Laborious Parturition, p. 57.; and Essays on the Practice of Midwifery, p. 223.

‘ presume,

' presume, that I have now satisfactorily
 ' proved the necessity and propriety of o-
 ' pening the head of the child at the be-
 ' ginning of labour, whenever the capaci-
 ' ty of the pelvis is only two inches and
 ' three quarters, or certainly less than
 ' three inches, from the utter impossi-
 ' bility of a child of ordinary size, at
 ' full time, being born alive by any
 ' means, either of nature or art, through
 ' so small a pelvis.'

If the arguments which I have offer-
 ed against the possibility of accurately
 determining the dimensions of the pel-
 vis be well founded, then this doctrine
 is erroneous in its principles, and dan-
 gerous in its consequences. But in a
 subject of such importance as this, where
 the *existence* of a *living child* may, and
 must often depend on the decision of
 the question, I should feel very much
 for the interests of humanity, if I could
 controvert

controvert your sentiments by reasoning only; fortunately, I hope, for the benefit of mankind, and the credit of our profession, I can likewise adduce facts, as the following cases prove.

CASE I. *

SEVERAL years ago, I was called to visit a lady in the country. On my arrival, I learned, that she was aged thirty-six, of a very rickety habit, and had been married nearly three years before she became pregnant. She had completed the full period of gestation, and was attacked with

* I am, from particular reasons, forced to mention this important case in more general terms than I should have otherwise employed. The history of it, however, is well known to several medical gentlemen here, and particularly to my friend Dr Charles Stuart, who was informed of all the circumstances long before I had any view of making it public.

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the symptoms of incipient labour four days previous to my being sent for.

AN experienced midwife who attended her, informed me, that for the first twenty-four hours the pains were trifling and slight; but that afterwards, they had increased in frequency and force, and had continued, without any perceptible remission, for three complete days and nights. She had had continual sickness and vomiting from the beginning of labour.

WHEN I saw her, the pains had entirely ceased for some hours; she complained of much faintness, and had a feeble and very quick pulse; her stomach retained nothing, and what was vomited resembled the sediment of coffee. She had had a suppression of urine for twenty-four hours. On examining, I found that the parts were prodigiously swelled,

swelled, and that the child was prevented from advancing by a considerable narrowness of the brim of the pelvis; for, in consequence of the projection of the promontory of the sacrum, and inferior lumbar vertebræ, the head was thrown forwards on the pubes, and the vertex could be felt by the finger to protrude only a little through the superior aperture.

THE symptoms of the case were so urgent, that I thought it necessary immediately to open the cranium, and procure the discharge of its contents, and after waiting two hours till the patient's strength became recruited, I extracted the child by the crotchet with very great difficulty.

HER recovery was tedious, and several months elapsed before she was able to walk without support, even from her bed

bed to the sofa, which was only a few feet distant.

DURING the course of the following spring, she was affected with pain in her back and loins, and became so much debilitated, that she totally lost the use of her limbs, and was obliged to have recourse to crutches, by which she was enabled to shuffle from one end of the room to the other.

AFTER many remedies had been in vain used, she was advised to make trial of sea-bathing during the favourable season, which she continued for two summers.

IN this situation she became again pregnant, after three years had elapsed since her first delivery.

HAVING put herself under my care,

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I was sent for as soon as labour commenced, and continued in the house with her during three nights and days, without visiting any other patient.

HER labour went on very slowly, nearly observing the same progress, and attended with the same symptoms as in her former labour. I was obliged to pass the catheter two or three times, on account of suppression of urine.

AT last, after the liquor amnii had been evacuated for thirty-six hours, and the os uteri fully dilated for the same space of time, she appeared almost quite exhausted, and therefore it did not seem advisable to delay any longer having recourse to instrumental delivery.

THE head of the child was too high, and the narrowness at the brim of the pelvis too considerable, to afford any prospect

prospect of succeeding in the use of the forceps; and therefore I was reluctantly compelled to inform the relations of the patient, and her ordinary medical attendant, who was very much interested in the event of the case, that the operation of embryulcia appeared to be the only resource.

WHEN, however, every thing was prepared for this purpose, and the position of the patient adjusted, she complained violently of an uncommon cutting pain, as she termed it, extending from the back to the thighs, and laterally to both haunches. The labour-pains became very strong and forcing, and therefore I resolved not to interfere while they should continue. From that time they recurred at very short intervals, and had such effect, that I soon felt the child's head very sensibly pressed down during the pain, the perinæal

tumour was gradually formed, and within half an hour afterwards she was safely delivered, without the use of any instrument, of a mature female child, rather small in size.

SHE recovered slowly; and her former complaints having again occurred, she continued lame ever after.

THE child was so healthy, that she now lives, and is herself a mother.

THIS patient made another trial of the sea-bathing the following season, and notwithstanding that she was in a most emaciated state, and had evidently hectic complaints, she became a third time pregnant.

SHE was with great difficulty delivered with the forceps, of a dead child, in a putrid state; but a dysentery

ry having supervened soon after her delivery, she died within about three weeks from that time.

THE situation of this patient appeared so very precarious, that I requested my late worthy colleague Dr Young to attend the case from the beginning of labour along with me.

WE were permitted to take a view of the abdominal cavity after death, and on accurately measuring the short diameter of the pelvis at the brim, we found that it was sensibly under three inches.

THERE could be no mistake, for we applied a small piece of wood, and fitted it exactly to the short diameter. It was shown in our class for several years, but at last was accidentally lost.

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THE lower proportions of the circumference of the pelvis were also below the usual dimensions, but not in so great a degree as those of the superior aperture. The impatience, however, of the attending relations was such, that we could not examine it so leisurely as to ascertain the dimensions exactly.

CASE II.

CHARLOTTE GRAY, wife of — Gray, by trade a blacksmith, residing in that part of the suburbs of this city, called Portsburgh, sent a message to my house, requesting the assistance of my pupils on the evening of January 12. 1790. Dr Charles Daly of Cork and Dr Joseph Ball of Eniskillen, then my Annual Pupils, immediately waited on her.

WHENEVER Dr Daly saw the patient, he recollected that, by the favour of another

other practitioner of this city, he had, about twelve months before, seen her delivered by the operation of embryulcia. He therefore considered the case to be of such importance, that he sent for my Son and Assistant, and requested that he would undertake the management of the patient.

My Son, at eight o'clock that evening, examined with care the situation of the woman: he found that she had been in labour for several hours, the liquor amnii was discharged, the os uteri was almost fully dilated, and the head of the child lay over the brim of the pelvis; and he perceived that the principal deficiency of space was at the brim, and was occasioned by the projection of the sacrum. The dimension of the transverse diameter of the brim, he judged not to exceed three inches, and he was, by repeated

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examinations, persuaded that it was under that.

HE learned that her age was about 26, that she had been married on October 23. 1787, and had been delivered, as already mentioned, in February 1789. As he found that this woman's pelvis was pretty capacious at the outlet, he imagined, that if by any means he could engage the head fairly within the pelvis, provided the labour-pains should continue strong and violent, as they then were at intervals, it might be brought within reach of the forceps.

HE was confirmed in this opinion, by being assured that the child was, in her former labour, expelled by natural pains alone, without any artificial assistance, a very few minutes after the head had been opened.

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- ON these principles he determined to employ *Dr Lowder's Lever* * ; and after having explained to Drs Daly and Ball his motives for doing so, he introduced the instrument over the occiput of the child, to which he was directed by the futures, at that time very distinct, and

* THIS instrument being different in form from that described by M. Herbiniaux, Dr Bland, and Dr Denman, possesses different powers, and is employed in a different manner ; hence the objections which I offered against the use of the lever, previous to 1791, I have found totally obviated by it. You will therefore perceive, that the arguments which you have, with so much propriety, urged against the instrument of these gentlemen, are perfectly inapplicable to it. As my Son originally used it by the recommendation of Dr Lowder, and has since repeatedly had recourse to it, from his own experience of its utility, I shall leave to him the task of making its advantages publicly known ; and consequently, the engagement, which I some time ago made, to offer a few Observations on the use of the lever, will be fulfilled by him.—See *Outlines of the Practice and Theory of Midwifery*, edition 1791, p. (168).

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began about a quarter before nine o'clock to act with it during a pain. He continued to do this till nearly half past eleven that evening, when his intentions were so far completely fulfilled, that the head was fairly engaged within the pelvis, that is to say, it had entered about one third within the cavity.

DURING the time employed in the use of the lever the pains were frequent, and it is worth remarking, that my son, as he informed me, repeatedly shewed Doctors Daly and Ball, that without pressing with the instrument on any part of the woman, he could exert a very considerable degree of force in drawing down the child.

As the patient was now drowsy, he resolved to encourage this disposition, from the hopes, that after a few hours sleep, her strength might be so much recruited

cruited as to enable her to undergo the operation, if it should be found necessary to use the forceps ; and therefore he gave her forty drops of tinctura Thebaica, and having been engaged the preceding night in a fatiguing attendance, he then left her to the care of Dr. Ball.

SHE slept for about two hours. When she awoke, the pains recurred, and gradually increased in frequency and force, till five o'clock of the morning, when she was, by the natural pains alone, delivered of a large still-born male child. The head was much flattened, and there was the mark of a bruise on the teguments covering the posterior edge of the right parietal, and the contiguous part of the occipital bone. There was the appearance also of a very slight bruise on the left parietal bone. My son imputed the bruise on the right parietal bone and the occiput, to the use of the

lever, having made that part more tender than any other, and hence rendered it more readily injured by the pressure which the head sustained in its passage, from the straitness of the bones of the pelvis. The recovery of the patient was tedious, as she had been troubled very much during her pregnancy with a bad cough, which still continued to distress her, and which proved very obstinate, from the shape of her body; for she measures exactly three feet five inches in height, has been deformed since her earliest years, and has a large head, and a remarkably distorted spine.

IN March, however, she had no complaint, except an incontinency of urine, under which she had laboured ever since her first delivery.

ON the 4th of April 1791, this woman called at my house at ten in the morning,

morning, and as myself and son were both abroad, she desired the servant to mention, that she had called to request my son again to take charge of her delivery, and she added that her full reckoning was completed.

A little before ten o'clock of the same evening she sent a message, requiring his immediate attendance.

ON his arrival he learned that she had been in labour since two o'clock of the afternoon, and that the liquor amnii had come off about eight o'clock in the evening. When he examined her, he found the breech very low in the passage, and, to his great mortification, he could feel no pulsation in the cord. The pains were very forcible, and had been so for several hours. He endeavoured to deliver her as speedily as possible, and succeeded by the assistance of
 very

very strong pains, without the use of any instrument whatever, within half an hour after his arrival. The child, (a female), however, was still born. This he imputed to his not having been sooner called, which proceeded from the poor woman having been unwilling to trouble him till she thought herself really ill.

HER recovery was so good, that she went abroad to church on the thirteenth day, and returned to her usual occupation, as assistant to the housekeeper of one of the charity hospitals of this city, on the fourteenth day after delivery.

ABOUT the beginning of September this year, (1792), Charlotte Gray, this patient, again called at my house, to inform my son that she was in a situation to require, within a fortnight or three weeks, his assistance.

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ACCORDINGLY, on the 23d of September, in the evening, he was sent for to attend her. She informed him, that she had enjoyed better health during the course of her present pregnancy, than she had ever before done on such occasions; a circumstance, she added, which afforded her the most sanguine hopes that she might be more fortunate in her delivery than she had hitherto been.

HAVING examined her, and found that the os uteri was still thick and hard, he prescribed an opiate, and left her; in consequence of which she slept a good deal through the night. The pains recurred next day, (the 24th), and towards the evening encreased much in force. As my son was then attending another very interesting case, to which he had been called before Charlotte Gray sent for him, he committed the charge of her to Mr Cathcart of Pitcair-

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ly in Fife, and Mr Woodford of Bath; two of my present annual pupils.

At midnight, the liquor amnii was spontaneously discharged. From that period she had continued bearing-down pains; and at last, at five in the morning of the 25th, about thirty-four or thirty-six hours from the commencement of labour, she was delivered, by the efforts of nature alone, of a living boy. The head was very much flattened, and continued quite unshapely for several days. The child weighed some time after birth 6lb. 13 oz.. The patient at present nurses her infant, but has little milk, and is much debilitated; so that the child had evidently become smaller since its birth, when it was weighed.

CASE

C A S E III.

NELLY SANDERSON, aged 40, very much deformed in body, (having been rickety from her infancy), was admitted into the lying-in ward of the Royal Infirmary here, on Saturday evening May the 12th last, (1792). She said that she was then arrived at her full term of pregnancy.

ON Monday May 21st, she began to have slight irregular pains in the back and loins, which continued during the night.

ON Tuesday, (22d), the pains became more strong and regular, attended with the discharge of the shews. The pupils of my class were sent for, although the os uteri was only beginning to dilate.

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TOWARDS evening the pains recurred at regular intervals of five or seven minutes, and seemed to affect the os uteri considerably; but about eleven o'clock they appeared to go off. She then received thirty-five drops of Tinctura Thebaica.

ABOUT two o'clock in the morning of the 23d, some strong forcing pains came on, by which means the membranes were ruptured, and the liquor amnii discharged. The os uteri was now completely dilated, and the head of the child was perceived to lie over the brim of the pelvis. The promontory of the sacrum was found to project very considerably forwards.

SOON after the rupture of the membranes, the pains became very violent, but the head did not advance into the pelvis,

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At ten o'clock of the same morning my Son examined the situation of the patient, and was convinced that there was much deficiency at the brim of the pelvis, by which it seemed that the child was prevented from advancing.

The patient was ordered to be kept very cool; china oranges were prescribed for assuaging thirst; every thing stimulating was strictly prohibited; and a little beef-tea only allowed from time to time when faint.

In the evening I visited this woman, and found, that in consequence of the pains having been exceedingly strong during the course of the day, the head had begun to enter the pelvis, the bones being very much overlapped. The width at the brim, as nearly as I and my Son could judge, was *under three inches.*

As the patient's pulse was strong, and there was no untoward or urgent symptom, the rectum having been emptied by means of two clysters, and there being no collection of urine in the bladder, we determined to allow the efforts of nature their full power; and therefore we advised, that she should be kept quiet and cool. My Son visited her at eleven o'clock that night, but was not conscious that the head had made any progress. He prescribed thirty-five drops of Laudanum, and ordered a continuation of the attentions already recommended. He also requested, that the gentlemen attending might leave her all night to the care of the matron of the ward, that she might not be fatigued by their enquiries, nor overheated by their crowding the room.

DURING the night she enjoyed little sleep,

sleep, but had strong pains at irregular intervals.

ABOUT seven in the morning of the 24th, Mrs March (the matron of the ward) having observed that there was a great alteration in the position of the child, desired the pupils to be immediately called.

THE pains, however, became very violent and forcing; and she was delivered of a male child, by the powers of nature alone, in presence of Mr Woodford of Bath, and Mr Ryan of Nenagh.

THE child was of an ordinary size; but the head was very much flattened and bruised, although no instrument whatever had been employed.

SOON after birth a large tumour, attended

tended with depression, was perceived on the left side of the head, over the edge of the frontal and parietal bone.

THIS tumour, notwithstanding every means which could be used, suppurated. At last gangrene took place, by which the parts of the bones over which the tumour had been situated, were completely denuded.

THE child had blotches on other parts of the body, so that its system seemed much diseased.

It never sucked, but lived eight days on spoon-meat, and then died in a fit. The head had gradually assumed the ordinary shape. My Son measured it, in presence of Mr Woodford, with a pair of Callipers, and found that it measured from one parietal protuberance to the other three inches and three quarters, and

and from the frontal to the occipital bone four inches and three quarters. The ossifications appeared as complete as usual.

THE woman recovered very well, and was dismissed from the hospital on the 4th of June at her own desire, in such good health, that she walked to the village where she resides (the distance of six miles from Edinburgh) on that day.

NEAR forty gentlemen then attending my class had an opportunity of seeing this remarkable case.

I might to these cases add several others, where the deformity of the pelvis seemed to be such, that, according to your data, the head of the child should have been

been opened at the *beginning of labour* ; but where, by having patiently allowed the powers of nature to produce their full effect, the delivery was accomplished with safety both to the mother and child.

WHILE I thus inculcate, by precept and example, the propriety of waiting, in certain cases of deformed pelvis, till the effects of the propelling powers of labour shall be accurately ascertained, before the child's life be destroyed, I do not mean to insinuate, that this rule should be observed in cases of extreme deformity.

BUT I must remark, that young practitioners ought to be cautioned against opening the child's head on any occasion whatever, except where immediate delivery is absolutely necessary, until the os uteri be at least almost completely dilated.

THE

THE practice of beginning the operation of embryulcia, while the os uteri is only dilated in a small degree, although sanctioned by your authority, is highly dangerous and improper in every point of view.

IN order that my opinion on this very important subject may not be misunderstood, I shall take the liberty to explain myself more explicitly.

WHEREVER, before the labour-pains have become violent, the short diameter of the pelvis at the brim shall admit easily three ordinary sized fingers, then the delivery should be entrusted entirely to nature, unless some urgent symptom shall occur, or unless it be found that the head does not enter the pelvis after long continued strong pains. But when, under the same circumstances, two ordinary sized fingers only can be admitted,

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ted,

ted, then the child's head should be opened, as soon as the os uteri is nearly or completely dilated. And, when one ordinary sized finger only can be passed through the short diameter, even although it does not entirely fill the space, then the Cæsarean operation, in my opinion, affords the only means for terminating the delivery.

THE reasons for these practical rules may be very easily understood, from what has been already said, as it is impossible to ascertain, within a quarter of an inch, the dimensions of the pelvis, when more than two fingers are employed; and as the heads of children at full time admit of a variety of degrees of diminution by compression, life would, in many cases, be *unnecessarily* destroyed, if the operation of embryulcia were had recourse to, whenever the short diameter should appear to be under three inches. But, as it is impossible for a
living

living mature child to pass through a pelvis, the short diameter of which cannot admit above two fingers, the sooner the head is opened, provided it can be done with safety to the woman, the more easily will the delivery be accomplished; it must not, however, be imagined, that it is consistent with her safety to attempt that operation, till the os uteri be almost entirely dilated. On the other hand, when the degree of deformity in the pelvis is so very great, that no more than a single finger of an ordinary size can be passed through the short diameter, either at the brim or the out-let; it seems to me probable, that a child, although the contents of its head may be discharged, and part of the cranial bones be picked away, cannot be extracted through such an aperture, at least with safety to the mother. In such unfortunate, though rare cases, therefore, the Cæsarean operation should be

had recourse to, and ought to be performed before the strength of the patient be exhausted by the unavailing anguish of labour.

It may not be improper to observe, that as we frequently meet with instances where women mistake the reckoning of their pregnancy by several weeks, your precept, if generally adopted, might induce a young practitioner to open the head of a child at the beginning of labour, in a pelvis where the dimensions are below three inches; which, from being perhaps only in the seventh or eighth month, might have been born alive. I mention the *possibility* of such an occurrence, not as an addition to the arguments I have already advanced, which I am conscious require no collateral evidence in their support, but as a caution to the young practitioners who may look into this correspondence.

IN

IN the second place, daily observation teaches every practitioner of midwifery, that the size and structure of the heads of children differ in different women, and vary in the same woman in different pregnancies. This incontestible fact is proved by your own words *. ' Though we can readily determine by the introduction of the fingers into the vagina, what are the *absolute* dimensions of the pelvis; yet the relation between these dimensions, and the volume of the child's head, is not determinable with geometrical precision, as there is a considerable variety in the size of the human foetus; and it is impossible to know the exact size of any head while it remains in the uterus. Further, one head may perhaps, by its original construction,

Essay on Laborious Parturition, p. 27. Essays on the Practice of Midwifery, p. 190.

be

‘ be able to bear compression better, or
 ‘ with less injury to the contents, than
 ‘ another head; various other circum-
 ‘ stances too, which cannot be known,
 ‘ probably sometimes make a consider-
 ‘ able difference; at least it is an un-
 ‘ doubted fact, confirmed by daily obser-
 ‘ vation, that some children come alive
 ‘ into the world, while others are still-
 ‘ born; and yet the circumstances of the
 ‘ labour, and as far as we are able to
 ‘ judge, the structure both of the mo-
 ‘ ther and child, shall be apparently the
 ‘ same.’ Although you state thus clearly
 and explicitly the sentiments which I
 have always adopted, yet you afterwards,
 in the following words, positively contra-
 dict it: ‘ Notwithstanding all these va-
 ‘ rieties, notwithstanding the utter im-
 ‘ possibility of arriving at absolute pre-
 ‘ cision, yet we are certainly in posses-
 ‘ sion of the means of determining, with
 ‘ every degree of exactness necessary
 ‘ to

‘ to direct our future practice in the
‘ safest and best manner *.’ This means,
you add, consists in ascertaining the
compression of which the head of the
child is susceptible, which you allege
cannot, consistently with its life, be
‘ to a volume much smaller than three
‘ inches.’

BAUDELOQUE speaks very different-
ly, (parag. 1608.) ‘ The head,’ he says,
‘ pushed forward for hours together by
‘ the natural agents of delivery, be-
‘ comes insensibly softer, and more pli-
‘ able, and at length acquires the neces-
‘ sary dispositions for moulding itself
‘ to the form of the pelvis. If it then
‘ flattens in one direction, it really
‘ lengthens in another; the form of the
‘ cranium only changes, and its cavity

* Essay on Laborious Parturition, p. 28.; Essays
on the Practice of Midwifery, p. 191.

‘ contracts

' contracts so little, that the brain is
 ' scarcely affected by it. I have seen
 ' children, whose heads seemed to have
 ' lost nine or ten lines of their na-
 ' tural thickness in passing the supe-
 ' rior strait, and seemed to have length-
 ' ened in the same proportion, without
 ' comprehending the tumour formed
 ' in the scalp before the posterior fon-
 ' tanelle. The heads of several of these
 ' children were above six inches and an
 ' half, and even seven inches long, from
 ' the chin to the top of the aforesaid
 ' tumour, while the thickness from
 ' one parietal protuberance to the other
 ' was but two inches and a half, or
 ' two and three quarters in some, and
 ' three inches in others. In a few
 ' hours after birth, the heads of these
 ' children spontaneously recovered the
 ' thickness which they had lost in deli-
 ' very, and lost the length they had ac-
 ' quired by it. The head not only lo-
 ' ses

‘ ses its form thus, in some cases, but
 ‘ sometimes even bends in the manner
 ‘ of a crescent, so that one of its sides
 ‘ shall be a little concave, and the other
 ‘ rounded, without at all affecting the
 ‘ child’s life.’ He, in the eleven subsequent paragraphs, shews, by the detail of several experiments on the subject, that the degree of compression, which the child’s head can bear, is in proportion to that of the ‘ solidity of the bones
 ‘ of the cranium, and of firmness in
 ‘ the futures.’

3dly, *Even allowing the dimensions of Elizabeth Sherwood’s pelvis to be accurate, the obstacles which will occur in similar cases to practitioners possessing less dexterity and skill than you, and the dangerous bruises which the patient will necessarily suffer, do not justify the use of the crotchet in every instance of so great deformity. The circumstances already stated, p. 82. of*

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this

this letter, induce me to be always somewhat slow to believe the geometrical accuracy of any calculation made on the pelvis of a living subject. But I am too well acquainted with the honour and integrity for which you are distinguished, to harbour the most distant suspicion of any of the facts respecting that case, of which you can be a competent judge; and shall therefore waive this consideration.

THAT the success of this case, however, does not warrant the use of the crotchet in *all* instances of similar deformity, I am firmly persuaded. If a substance, about four inches in length, and one and an half in width, when turned sideways, incapable of being diminished except in a small degree, be drawn through an aperture measuring somewhat more than four inches and an half in length, but being only for a great
part

part of that, three quarters of an inch in width, and in the remaining part only one inch and three quarters, and requiring a great exertion of extracting force, for the space of more than two hours, to be so; then, surely the sides of the opening, through which it is brought, must suffer very violent friction. When, therefore, the delicacy and irritability of the parts within the pelvis are considered, it must be regarded almost as a miracle, if, after a child has been extracted by the operation of embryulcia through a pelvis of the dimensions just stated, the patient should recover, as Elizabeth Sherwood did.

In confirmation of this, I shall refer to Dr Kellie's case, where the woman died, although the transverse diameter of her pelvis was larger than that of Elizabeth Sherwood; and I may also refer to the first case related by Dr Clarke in

the London Medical Journal *, where the woman had, after delivery, vomiting, and pain in the abdomen, which continued and increased for several days; and which, having been relieved by bleeding and other means, to obviate inflammation, evidently seems to have originated from the bruises she received during labour. It is true she recovered, but it appears that she had a hair-breadth escape.

I shudder at the consequences which would ensue, if an operator less dexterous than you, (and that there must be many such, you will not deny), should, in a case similar to that of Elizabeth Sherwood, or to those even which occurred to Dr Clarke, open the head of a living child. Although you succeeded *easily* in your operation, and

* See London Medical Journal, vol. 6th, p. 45.

Dr Clarke, in speaking of his cases, says, ‘ In neither of them was the delivery attended with any great degree of difficulty, nor did the management of them require any extraordinary skill or dexterity ;’ I am nevertheless convinced, that by far the greatest number of practitioners would, under such circumstances, by being foiled in the extraction of the child, be compelled to leave a *mangled infant* in the womb of a *dead mother*.

THIS, therefore, forms a very strong objection to the general adoption of your doctrine ; for no discovery can be extensively useful, where its advantages must depend on the exertion of one or two individuals. As you yourself say on another occasion, ‘ if the principle be bad, however it may be corrected by the skill and dexterity of an individual,

* individual, the practice in the general
 • result cannot be either safe or suc-
 • cessful *.

4. *If the basis of the head can only be reduced by the operation of embryulcia to the width of an inch and an half when turned sideways, I cannot conceive, that when joined to the body of a child, it can be drawn through an aperture of the same width, even in its whole extent, much less on either side of the projecting sacrum, for the neck must add somewhat to the volume of the head. From a conviction of this evident truth, I confess I have always regarded with astonishment the history of Elizabeth Sherwood. You allow that you found it impossible to diminish the base of the skull to a smaller size than one inch and an half in width, yet by turning it sideways, having the crotch-*

* *Essays on the Practice of Midwifery, &c. p. 120.*

et fixed in the foramen magnum, you *easily* and *immediately* succeeded in bringing down the head, &c. Now, allowing the width of the base of the skull to be only one inch, it might be brought through the brim of a pelvis measuring in a great part only three quarters of an inch, by forcible means, as far as the neck, but then, I apprehend, at least an inch would be added to the bulk; yet "every difficulty was removed." To accomplish delivery in such a case, one of three circumstances seems to be necessary, either the base of the head must be reduced below an inch in width, or the child must be of a small size, or the brim of the pelvis must measure more from pubis to sacrum than an inch and an half.

THE following experiment may be tried, and I shall rest the decision of this argument on its result. Let an artificial

tificial pelvis, of strong tempered steel, be constructed in such a manner, that, at the brim, the diameter from one ilium to the other may measure somewhat more than four inches and an half, the transverse diameter from pubis to sacrum three quarters of an inch, the aperture on the left side of the sacrum no more than that, and the aperture on the right side about an inch and three quarters at one point only, being much narrower both towards the ilium and sacrum. Let a still-born mature foetus of an ordinary size, with the cranium opened, and its contents discharged, be macerated for thirty-six hours in water of the temperature of 98° of Fahrenheit's thermometer. Let the base of the cranium be broken down as much as it can be done in real practice, and then, by means of the crotchet fixed in the foramen magnum, let it be tried whether it be possible, without the exertion

exertion of so much force as would separate the bones in a living subject, to extract the child through the brim of that artificial pelvis.

5. *In such dimensions of a pelvis, it will not be a very easy matter to reduce the head to that size, from the difficulty of using instruments with safety in such cases.* . This observation I shall prove from your own words, and those of your ingenious and respectable colleague Dr Clarke.

‘ It was therefore agreed, that an attempt at least ought to be made to deliver the poor creature by opening the child’s head, and extracting it with the crotchet. It was my duty to perform the operation, which I began about eleven o’clock that night, after placing her in the usual manner, close to the edge of the bed, on her left side, as the situation most commodious both

S

‘ for

' for the patient and myself. Even the
 ' first part of the operation, which in
 ' general is sufficiently easy, was at-
 ' tended with considerable difficulty,
 ' and some danger. The os uteri was
 ' but little dilated, and was aukward-
 ' ly situated in the centre, and most
 ' contracted part of the brim of the
 ' pelvis. The child's head lay loose a-
 ' bove the brim, and scarce within reach
 ' of the finger, nor was there any future
 ' directly opposite to the os uteri.'

DR CLARKE, (p. 45. of the London
 Medical Journal, vol. 6.), in his histo-
 ry of Ann Cooper, already referred to,
 expressly remarks, ' She had evident
 ' marks of puerperal fever, which had
 ' been most probably brought on by
 ' the necessary force used in pressing
 ' upon the abdomen during labour.' If
 difficulty and danger attend the use of
 instruments in such cases, under your
 experienced

experienced hands, to what hazard must a poor patient under the charge of practitioners of less dexterity, be exposed? Under such circumstances, I am much afraid, that if the same practice be adopted, both mother and child will be doomed to inevitable destruction.

ON the whole, then, until these objections be refuted by adequate arguments, I shall continue to believe, that wherever the short diameter of the pelvis, either at the brim or at the outlet, will not admit above one ordinary sized finger, or, to use my former expression, really falls under one inch and an half, no other means are justifiable for the delivery, (if the child be arrived at the full period of gestation), than that tremendous expedient, the Cæsarean operation.

I have the honour to be, &c.

L E T T E R VII,

S I R,

MY intention, in this letter, is to produce those arguments in proof of the child in utero being endowed with the powers of sensation, which you have required me to do.

It will undoubtedly appear to the world at large very extraordinary, that at the end of the eighteenth century, when the knowledge of the structure of the human body has, by the labours of ingenious men, become so perfect, any one should deny the sensation of the fœtus in utero, and that any one should be obliged to prove, that a child before birth does feel.

You,

You, however, have, by a train of ingenious and specious arguments, endeavoured to persuade practitioners that the foetus in utero is utterly destitute of sensibility ; an assertion which must appear so evidently erroneous, that perhaps, had you not called on me to prove it false, I should scarcely have been induced to enter on the subject.

INDEED, as your friend Dr Clarke very judiciously remarks, ‘ opinions held forth and supported by men whose skill and abilities are highly esteemed, seldom fail to have considerable weight with mankind ; and undoubtedly, by being derived from such sources, they have a reasonable claim to the attention of the public.

‘ ERRORS in practice, however supported, may prove detrimental to society ; but the danger increases in proportion

‘ tion to the reputation which those who
 ‘ propagate them hold in the estimation
 ‘ of the world *.’ Hence it is incumbent
 on every man who has the interests of
 humanity at heart, to contribute by his
 endeavours to counteract the bad effects
 of dangerous opinions.

ON these principles, therefore, I must
 undertake a task, which, I hope, for
 the credit of our profession, will appear
 superfluous labour to practitioners of
 midwifery in general.

IN your Essay on Laborious Parturi-
 tion, (p. 39.), you say, ‘ as children be-
 ‘ fore birth, are incapable of mental ap-
 ‘ prehension, so it is as undoubtedly
 ‘ true, that they are not yet arrived at,
 ‘ or in possession of bodily sensation,
 ‘ and cannot therefore become objects
 ‘ of cruelty.’

* London Medical Journal, vol. 6. p. 41.

HAVING

HAVING always maintained a very opposite doctrine, founded, as I think, on reason and observation, I mentioned my opinion shortly in my last edition of the Outlines. In your Essays on the Practice of Midwifery, (p. 448.), you answer me in the following words.

‘ Dr Hamilton however says, with expressions of approbation otherwise very flattering, for which I feel myself much obliged to him, that’ “ no man who reflects on the subject, and much less who has practised Midwifery, will agree with me, that the child *in utero* possesses no feeling.” ‘ Now I own I am not satisfied with a bare contradiction, because I have often reflected on the subject, and certainly have practised Midwifery, and am nevertheless of that opinion; and I should have felt myself extremely obliged to Dr Hamilton, if, instead of a positive assertion, he would have condescended

‘ ed

' ed to have answered my argument ;
 ' for, if ill-founded, weak, or frivolous,
 ' it would have been easily refuted ; but
 ' till it is, I shall continue to hold the
 ' same opinion, for the reasons given
 ' above ; and, in confirmation, beg to
 ' suggest, that bodily sensation would
 ' be of no service to a child *in utero* ;
 ' and nature never performing works
 ' of supererogation, either in the mo-
 ' ral or physical world, I must believe
 ' that it has no feeling before birth.'

Now, Sir, as I have been always ac-
 customed to imagine, that it is univer-
 sally acknowledged that children *in utero*
 possess life, and the power of. volunta-
 ry motion, and that it is generally, and
 has been for more than two thousand
 years, believed by physiologists and
 naturalists, that every thing endowed
 with life, and the power of voluntary
 motion, must necessarily have *sensation*,

I thought no proof was required of the *feeling* of the foetus; therefore I did not hold it incumbent on me to answer your objections to this evident fact, so particularly as I shall now do.

YOUR objections are, I apprehend, first, That though children frequently die *in utero*, the struggles of death are not perceptible by the mother; and, secondly, That when violence is used to destroy the child by the operation of embryulcia, the mother does not feel any struggles or exertions, which would certainly happen, did the child feel pain.

WITH respect to your first objection, (on which, by the by, you yourself do not presume very much), it may be asked, How it is possible that the mother should be able to distinguish the death of the child? Surrounded by a
T fluid,

fluid, which for a part of the period of pregnancy prevents it from even touching the parietes of the uterus, how could any struggles, the most violent of the child, be communicated to the mother. In an after period of gestation, it is true, the motions of the infant are clearly felt by the mother; but these motions are very irregular; sometimes they are brisk, at other times feeble, and besides, in different pregnancies they appear different, from a variety of circumstances, with a detail of which I need not trouble you, as it would be quite foreign to our present purpose. Supposing, therefore, the struggles of death to be very violent, a woman cannot discriminate them from the occasional strong motion of the child which she may have sometimes felt, till, as you observe, by the cessation of the accustomed motion, she becomes too certain of the melancholy fact.

THIS

THIS observation, however, it must be allowed, though general, is not universal; for it is well known that those women who have had the misfortune to bear several dead children, if they usually die at one particular period of pregnancy, (which frequently happens), acquire a habit of distinguishing the struggles of death, at least they allege so, and their opinions are often confirmed by the appearance of the child when born.

BUT I will oppose to this objection a more forcible argument still, one which, depending on an experiment on a living mother and a living child, may be made every day by every practitioner. If the hand, (especially a cold hand), be applied to the sides of the belly of a healthy woman in the seventh month of pregnancy; if the child be alive, it will immediately start to the opposite side to

that touched, while the abdominal muscles of the woman are not affected.

YOUR second objection, equally founded on partial observation, is equally untenable with the first. You have been led to urge it from inattention to the effects which compression makes on the head of the child ; but you might have seen the subject fully discussed by M. Thouret in the volume of the *Histoire de la Société Royale de Médecine de Paris*, for 1779. He remarks, p. 418.

‘ UNE des différences les plus frappantes que présente la conformation des parties dans un enfant qui vient de naître, est celle qu’on remarque dans la disposition et la configuration des pièces osseuses qui forment à cet âge la voûte du crâne. Ces différentes pièces, qui solidement articulées, et,
 ‘ pour

‘ pour ainsi dire soudées ensemble,
 ‘ forment dans l’homme la partie supé-
 ‘ rieure d’une boîte osseuse très forte et
 ‘ très résistante, sont séparées dans l’en-
 ‘ fant par des intervalles membraneux
 ‘ que n’a point encore rempli l’ossifica-
 ‘ tion. Ces espaces intermédiaires n’ont
 ‘ pas dans tous les endroits la même
 ‘ étendue.

‘ LES observateurs de tous les temps
 ‘ n’ont entrevu d’autre intention de la
 ‘ nature dans cette conformation parti-
 ‘ culière, que celle de favoriser le pas-
 ‘ sage de l’enfant. Comme on a vu dans
 ‘ les accouchemens laborieux la tête du
 ‘ fœtus changer de forme et se dépri-
 ‘ mer manifestement, pour s’engager
 ‘ dans un bassin étroit ; comme on a
 ‘ sur-tout observé que des accouchemens
 ‘ physiquement impossibles, à raison du
 ‘ volume excessif de la tête de l’enfant,
 ‘ se terminent promptement peu de
 ‘ temps

temps après la mort, à la faveur de
 l'effacement des os du crâne que cet
 état procure; la première idée qui a
 dû s'offrir aux observateurs, a été que
 cette disposition mécanique avoit pour
 but de permettre aux os du crâne de
 se rapprocher, pour diminuer le vo-
 lume de la tête, et favoriser ainsi son
 passage dans l'accouchement. Cette
 idée est si simple et si naturelle, que
 tous les physiciens anciens et modernes
 s'y sont arrêtés.

Mais, quelque bien fondée que
 soit cette induction, la conformation
 de la tête dans l'enfant est encore éta-
 blie pour un autre avantage, qui
 prend également sa source dans le rap-
 prochement des os du crâne, et qu'on
 a droit de regarder peut-être comme
 plus important que le premier. Ce
 nouvel avantage dépend de la com-
 pression du cerveau. Elle a nécessaire-
 ment

' ment lieu par l'effet du rapproche-
 ' ment ; il n'est pas même possible
 ' qu'elle n'existe pas alors. La substance
 ' qui forme cet organ est molle et pul-
 ' peuse : il remplit exactement la cavité
 ' qu'il occupe. Comment feroit-il con-
 ' cevable qu'il ne subît point un état
 ' réel de compression, lorsque l'enve-
 ' loppe osseuse et flexible qui le ceint de
 ' toute part se resserre et presse forte-
 ' ment sur lui ?

' Il est donc évident qu'outre le
 ' changement de forme qu'il imprime
 ' à la tête de l'enfant, le rapprochement
 ' des os du crâne fait encore éprouver
 ' au cerveau un degré de pression pro-
 ' portionné, qu'on doit mettre au nom-
 ' bre des effets naturels que cette cause
 ' produit. Voyons quels sont les avan-
 ' tages qui peuvent en résulter.

' DANS le nombre des dérangemens
 ' auxquels

' auxquels est sujet l'organe délicat ren-
 ' fermé dans la cavité du crâne, il n'en
 ' est aucuns qui soient mieux connus
 ' que ceux qui dépendent de son état
 ' de compression. La perte du senti-
 ' ment et la cessation de tout mouve-
 ' ment volontaire, sont les effets con-
 ' stans et nécessaires qu'elle produit.
 ' Lorsque la pression n'a lieu que sur un
 ' point de sa surface, le mouvement et
 ' le sentiment sont détruits dans les par-
 ' ties seules qui reçoivent leurs nerfs
 ' de la portion du cerveau comprimée.
 ' Mais on fait, que quand elle est géné-
 ' rale, ou qu'elle étend son action sur
 ' une portion considérable de cet or-
 ' gane ; on fait, dis-je, qu'elle prive le
 ' corps entier de ses deux facultés les
 ' plus essentielles, de celle de se mou-
 ' voir et de sentir. Il n'est point, en
 ' médecine, de vérité plus constante ni
 ' mieux établie. L'observation et l'ex-
 ' périence s'accordent sur ce point.'

THE

THE child, therefore, is in a comatose state, when the head is compressed between the bones of the pelvis, and consequently unable to move. But is it consistent with reason to allege, that if the compression is taken off by the evacuation of a portion of the brain, the child will not then feel the violence done? You may indeed say, that when the cranium is opened, and part of its contents discharged, the child must die; but that immediate death is not the consequence of this injury, a justly eminent fellow-teacher in London will inform you *.

I will add, that I have had several melancholy proofs of the sensation of

* Dr Lowder: He mentions in his Lectures, that he was once called to a case where a young practitioner had opened the head. Dr Lowder delivered the patient with the lever; the mangled child lived two days. La Motte also mentions some similar cases.

children before birth, in cases of preternatural labours. I have often witnessed, with much regret, the violent expiring struggles of the child, where, after the feet and body have been delivered, obstacles prevented the head from being disengaged, till the pressure on the cord proved fatal.

IN the quotation, adduced (p. 144.) from your *Essays on the Practice of Midwifery*, you offer a third argument in favour of your opinion, viz. ‘ That
 ‘ bodily sensation would be of no service
 ‘ vice to a child in utero, and nature
 ‘ never performs works of supererogation,
 ‘ tion, either in the moral or physical
 ‘ world.’

EVEN although you should be able to prove that bodily sensation is of no service to the child in utero, still I think your inference is not fair; because nature has, in the structure of animal
 bodies

bodies, as in all her other works, as far as our imperfect senses enable us to judge, observed *general* not *particular* laws. Therefore, as life and the power of motion are necessary to the child in that state, bodily sensation being an invariable concomitant of these in every animated being, nature, were your doctrine well founded, must have made an exception from her usual laws in favour of the foetus.

IMPRESSED with a perfect conviction of these important truths, I have, from the first moment of my appearance as a teacher, endeavoured to represent them in the clearest point of view to every young gentleman under my care.

WHILE I have thus complied with your request, and, I hope, satisfactorily resolved your doubts respecting the feeling of the child, I am far from

meaning to insinuate, that it is never necessary to sacrifice its life, to the more valuable one of the mother. But on every occasion where I am reduced to this dreadfully distressing necessity, I do it with the utmost possible reluctance, and never till I am satisfied, from the urgency of the symptoms, that there is no alternative.

I shall experience the highest gratification, if the arguments contained in these letters against opening the child's head in the beginning of labour, altho' the short diameter of the pelvis shall appear to be under three inches, and in favour of waiting till the effects of the labour-pains, in forcing forward the child, shall be accurately ascertained, should prove the means of preserving a single life, by preventing young practitioners from using destructive instruments, without the most urgent cause. And I shall
feel

feel myself much flattered, if these arguments, as well as those I have offered to demonstrate that the child in utero certainly and necessarily does possess bodily sensation, should induce you to correct, if not altogether retract those erroneous and, as I think, dangerous, opinions, which you maintain in opposition to these doctrines.

I have the honour to be,

S I R,

Your most obedient humble Servant,

EDINBURGH, }
Oct. 27. 1792. }

ALEX^r HAMILTON.

feel myself much flattered, if these arguments, as well as those I have offered to demonstrate that the child in utero certainly and necessarily does possess bodily sensation, should induce you to correct, if not altogether retract those erroneous and, as I think, dangerous opinions, which you maintain in opposition to these doctrines.

I have the honour to be,

SIR,

Your most obedient humble servant,

ALEX. HAMILTON.

Edinburgh,
Oct. 27. 1791.